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WANTED—MORE UNION AND LESS UNION-ISM.

There are 1,450 unions in the United States. Since 1881, the year when the American Federation of Labor held its first convention, there have been **36,757 strikes, affecting 181,407 establishments, and throwing out of work 8,703,824 people.**

The National Machinists' Union in 19 years has **squandered $2,023,231.19 for strike benefits,** as compared with $285,739.10 for sickness and death benefits.

The Iron Molders' Union spent more on strike benefits in five years than it has in sickness and death benefits in 15 years.

During the last 12 months disregard for law and order resulting in strikes, bloodshed and death, has been more manifest in quantity and audacity than ever before in the history of the United States.

In Chicago alone from Feb. 7th to May 22d, there have been four deaths and 19 cases of serious injury, as a result of various attacks by professional sluggers, alleged to be in the employ of conflicting unions.

It would be possible to continue the series of similar statements until the space of several editions of "Domestic Engineering" was exhausted. The above figures are presented only to concentrate your attention on the important part that unions play in the commercial life of the country, and on the lack of control and proper direction by the various officials in charge,

Unions are necessary. We must have them. They are a part—and an essential part—of national action and perpetuity. History does not go back far enough to reveal to us a time when unions of capital and unions of labor did not exist.

There are two main motives for the formation of all unions: First, is a **consciousness of weakness,** which induces men to band themselves together to resist oppression, ward off danger, forestall disaster or generally to assist each other. The second motive is furnished by **the affinity which those pursuing the same occupation and possessing the same interest have for each other.**

The Greeks three centuries before Christ had a

powerful Federation of Labor at Rhodes. They had sick benefits, death benefits, conventions, festal gatherings, strict rules against disorderly conduct and fines for transgressions.

Numa of Rome encouraged craft-guilds, Rome possessing nine important ones at the time of Plutarch. There was a large soap-makers' union in Naples in the sixth century. King Canute of England founded a strong organization for the suppression of the Viking Trust.

All these unions were good unions when they started, but as they got older their heads became enlarged with the sense of their power, and in the 14th century Wyckliffe delivered several interesting addresses against the rottenness of the various guilds of his day. The unions were called guilds at that time.

There were two kinds of guilds, a manufacturers' guild and a craftsmen's guild, respective prototypes of trusts and unions of the present time. The merchants would not allow the working-men to become members of their guild, and the outcast workers formed a crafts' guild in self-defense. The existence of both of these was beneficial to English commerce for many, many years, but they disappeared as a result of religious prejudice and altered conditions of social economy and labor. Ninety per cent of them were swept away by legislative act in 1789, and Germany tore the last one up by the roots in 1869. We are now talking about guilds as a working power. There are a few associations left which boast of their ancestry and preserve the "guild" name, but their chief labors are performed around the banquet-table.

Early in the 19th century machinery came into general use. Public demand for commodities increased as a result of the additional facilities of intercourse provided by locomotives and steamships. The workers were in the early days without any particular organization save that manifested by a series of mobs organized for the destruction of machinery and buildings.

The child issue was the commencement of the labor union of the present time. Children were considered to be family assets by the laborer. At the age of seven or eight the child became a wage earner, and the larger the family the greater the income. Don't think for a moment that from the laborer the trade-union started because of the sympathy that the laborer had for his hard-working children. The agitation for the suppression of child-labor came from outside the labor-ranks, and very indignant the laborers were when they were told that their income must be curtailed because of the restriction of age at which children could work.

With income thus cut down, higher wages must necessarily be demanded and associations were formed with that end in view—**the same object as such associations have today, to demand as high wages as possible for as little work as possible.**

So you see unions are not new, and they are always essential. They may change their names, they may change their forms, but like needs in every age will require like help in the satisfaction of those needs. The chief difference lies in the methods by which the help is secured.

We need more union—a new kind of union. The best proof of this is evidenced by the present conflict now being carried on between the two steam-fitters' unions in Chicago. You wouldn't think that two unions would fight each other, would you? Their objects are the same—to set and maintain the standard of wages and the length of the working-day, and yet one union positively refuses to work where the members of the other union in the same trade are working.

To these two warring unions we would commend a study of the following quotation from a work which has a bigger sale and less reading than any other book in the world—such is the power of advertising.

"John said unto Him: Master, we saw one casting out devils in Thy name and we forbade him, because he followed not us. But Jesus said: Forbid him not, for there is no man who shall do a mighty work in My name and be able quickly to speak evil of Me, for he that is not against us is for us."

We are not concerned with the alleged rights or wrongs of either of these unions—they are both wrong in their vicious display of lack of union. What does concern us, however, is the lamentable effect this strife is having on the business of the country. There are thousands out of work, $30,000,000 worth of buildings are tied up or held in abeyance, free speech among the members of the unions is being restrained for fear of a broken head. Is it any wonder that the barbarians laugh when they visit our country and see the refining influences of our civilization?

Millions of dollars have been invested in strikes and disputes that by intelligent direction could have been applied to the founding of reputable manufacturing enterprises owned and run by union men. It is strange how men will submit to a stringent taxation to enable them to fight and starve, but do not trust their taxers sufficiently to furnish money to enable them to work.

We need more union—a new union—and that union shall be between the laborer and the manufacturer. Already it is coming into being. You must remember that 95 per cent of the country's business is carried on by the worker and the small merchants. At the present time the small merchant is being slowly ground to pieces between the exactions of the trusts and the arbitrary demands of the

labor unions, and yet among the small merchants and the honest workers there are to be found the best and keenest brains of the country, capable of forming a co-operative union for joint protection and assistance, which would prove of sufficient strength when organized to set at naught the fulminations of the trust octopuses and the menaces of the sluggers' unions.

The new union will be constructive as well as destructive. It will destroy the present false corner-stone of unionism—that all men are created equal; that all labor has the same efficiency, and must receive the same wage.

The new union will substitute for this the statement that all men shall have equal opportunity for development; that the least efficient shall receive a wage which will enable him to support himself and his family in decency and comfort, and make provision for accidents and disability.

The new union will provide for the payment of labor on the basis of efficiency. A minimum wage will be established for the least efficient, but the employer shall be free to reward the laborer with any sum he chooses, over and above the minimum wage, according to his worth to the business, and the worker shall be free to receive such remuneration in proportion to his efficiency. The present iniquitous scheme of branding all workers like cattle with the union trade-mark, regardless of their operative efficiency, will be done away with, and there will be no limit to any man's operative development.

The new union will be subdivided into two subsidiary unions, one for the manufacturers and one for the workers. Each of the associations will be incorporated under the laws of the United States, and every member of these associations will share the liabilities and profits of such an incorporated company. Such incorporation, if in effect today, as it is in European countries, would do away with 75 per cent of the ill-advised strikes that have been called on trivial bases. It is safe to say that the membership of any union would not allow any strike to be called because of prejudice, self-interest, or class-hatred by unscrupulous walking-delegates, if they knew that they, as members of an incorporated company, were liable to pay damages to the company or firm so affected, in the event of an adverse court decision.

The Hand of Protest Should Have Been the Hand of Repression.
(Cartoon reproduced from Chicago Daily Journal.)

In China, doctors are paid during the period that their customers enjoy good health. The moment that they become sick, the doctor's pay ceases. **How many strikes would be called, and how long would they last, if the walking-delegates, labor organizers and labor officials received no pay from the day of the commencement of the strike until its finish?** It requires no great amount of intelligence to answer this question.

The weakness of any organization is manifested as soon as it develops the sectarian spirit. It is a sign of decay, a degeneracy from the best things. The jurisdictional disputes that abound in labor affairs at the present time is one of the signs of the weakness of the management of union affairs. The

rank and file of labor organizations at the present time are hard-working, well-meaning, intelligent men, who have but little sympathy with the arbitrary foamings at the mouth of their so-called officials, but they are muzzled, they dare not state their opinions in the organization meetings, nor criticise the acts of their officers. But it is not likely that they will long continue to remain under such unreasonable restraint. The new union of employees and employers will offer advantages that the old unions have never been able to offer, and at less cost.

The new union in its operation will not countenance in any form breaking of contracts, boycotting, violence, defiance of the law, dynamite, and assassination. The workers of the country are opposed to these. It is a blot on the name of "union" that they still permit them to be continued by those whom they allowed to become their officials.

ANNUAL CONVENTION OF THE TENNESSEE STATE ASSOCIATION OF MASTER PLUMBERS.

The Tennessee State Association of Master Plumbers held its annual convention at the Julane Hotel, Nashville, on Monday, May 22d, with a representative attendance from all three grand divisions of the state. Pres. J. W. Martin, Chattanooga, was in the chair, and R. O. Carlin, secretary, was on hand at the desk. Both of these officers made informal reports that were indicative of progress and material results for the last year, and forecasted systematic effort and advance for the coming year. The round table discussion brought expressions from members from Knoxville, Chattanooga, Nashville and the smaller towns.

Provision was made for a sinking fund in the association to meet all emergencies during the coming year.

It developed that the most cordial relations exist between the members of the Tennessee association and the supply houses, each being disposed to recognize the rights of the others. The slogan is "Get what you want by asking for it rather than by a demand," and this has worked well. It has brought about almost perfect harmony.

The Nashville Builders' Exchange, through co-operative methods, is doing great work for the Nashville members, the tinners, carpenters and plumbers getting a contemporaneous line on all originating business. The Exchange offered every courtesy to the visitors during the convention.

The next meeting-place was not selected at this session, but left to the incoming Executive Committee. Union City or some west Tennessee point seems to be favored.

Officers for the coming year were elected as follows: President, W. H. Grewar, of David Grewar & Co., Nashville; vice-president, Frank Herbick, of Herbick & Lawrence, Nashville; sergeant-at-arms, Jas. Lipp, Chattanooga.

The secretary is an appointive officer, but it is known that W. V. Kennedy, of Kennedy & Co., Nashville, is slated for this place.

Delegates to the National convention are: David Whitehead, Nashville, and Fred Fox, jr., Chattanooga.

Everybody said it was one of the best meetings in years.

Following the morning session a theater party was given the visitors by the local plumbers at the Fifth Avenue Theater.

A visit was made to the Ahrens & Ott Mfg. Co. at Cummings Station, and from there a truck-ride was taken.

In the evening a trip to and entertainment at the Cumberland Park, Nashville's once famous race-course, was enjoyed.

Among those noted at the convention were:

Bristol: J. L. Hobson. Chattanooga: Fred Fox, jr., Jas Lipp, J. W. Martin, R O. Carlin, Ed Bork, Gus Wood.

Franklin: J. H. Rohlfs. Knoxville: Jos. Ahler. McKenzie: Clyde Grissam.

Nashville: P. J. Kane, John B. Kane, Jas. Gallagher, John Morgan, Chas. Preston, T. J. Mooney, David Whitehead, W. V. Kennedy, Frank Herbick, W. H. Grewar.

Union City: A. B. Nichols. New York, N. Y.: F. M. Beakes.

WIIL INVESTIGATE THE CORROSION OF STEEL AND IRON PIPE BY HOT WATER.

Secretary L. W. Stevens, of the Master Plumbers' Association of Boston and vicinity, has recently received the following letter from William H. Walker, director of the Massachusetts Institute of Technology, asking the co-operation of plumbers in an investigation of the corrosion of pipe by the action of hot water. Mr. Stevens placed the matter before the local association at a recent meeting and last week the letter was read before the state association members at their annual meeting. The letter follows:

"L. W. Stevens, Secretary: As I think our Mr. Worcester has already explained to you, this laboratory is instituting a general investigation of the iron and steel pipe used for hot-water service lines. We want to take up the subject from at least two points of view. First, to devise some means of preventing the rapid corrosion of pipe other than brass when used for hot water; and, second, to get an unbiased opinion founded upon experimental evidence as to the relative merits of wrought-iron and wrought-steel pipes, when used under identical conditions of service. If your association is interested in these matters, and can co-operate with us, we believe that some valuable information can be obtained. We will later have some possible means of diminishing the rusting in iron pipes, which we will be glad to lay before you for your criticism and suggestion. In the matter of getting samples of iron and steel pipe which have been used under the same service, and in which either one or both has failed, you can be of the most valuable assistance. We hope that your members will be willing to drop us a postal card whenever they run across such conditions. Upon its receipt we will immediately send a man to get samples and determine the general conditions of corrosion. Assuring you of our appreciation of any co-operation which your association may be able to lend, I remain,

"Yours very truly, Wm. H. Walker, Director."

RE-APPOINTED PLUMBING INSPECTOR TO SERVE SIXTH TERM.

E. H. Donahoe has just been re-appointed plumbing inspector of Peoria, Ill. This is the fifth time Mr. Donahoe has been re-appointed, giving him with the current period twelve years in protecting the Peorians from all the dangers that follow unsanitary plumbing.

ANNUAL CONVENTION OF THE WEST VIRGINIA STATE ASSSOCIATION OF MASTER PLUMBERS.

Held at Morgantown, W. Va., May 16, 1911.

The delegates to the annual convention of the West Virginia State Association of Master Plumbers held their first session at 10 a. m., May 16th, in the Board of Trade rooms, Morgantown, W. Va., with about a dozen delegates in attendance.

Pres. E. C. Wiedebusch, of Morgantown, appointed the Auditing Committee, whose report when submitted later in the session was approved. A general discussion of trade conditions and items of interest to the members concluded the session.

When the afternoon meeting opened at 2 p. m., a few more members were present, and there was also an increase in the number of supply men on the ground.

Shortly after opening the meeting it was voted to go into executive session, adjournment from which was not had until later in the evening. It was announced that a number of resolutions were adopted for presentation at the convention of the National Association of Master Plumbers, to be held at Galveston, Tex., beginning June 13th.

None of the national officers was able to be in attendance at the meetings.

The report of President Wiedebusch, made shortly after the opening of the morning session, was a brief account of the work accomplished during his incumbency, in which reference was made to the fact that, although business throughout the state during the past year has not been overwhelmingly good, the prospects for the coming 12 months are very much brighter.

By the report of Secretary-Treasurer Joseph, of Morgantown, the members were told that the association was in a very good financial condition.

During the executive session officers for the ensuing year were elected as follows: President, W. A. Wiedebusch, Fairmont; first vice-president, Thomas C. Lynch, Fairmont; second vice-president, A. J. Simmonds, Clarksburg; secretary and treasurer, E. C. Wiedebusch, Morgantown.

Delegates to the national convention are: Clyde Brand, Morgantown, state vice-president; and A. J. Simmonds, Clarksburg; alternates, C. E. Mumford, Fairmont, and L. W. Joseph, Morgantown.

Clarksburg was selected as the next convention city, and May 7, 1912, as the date.

During the convention proceedings it was announced that plans were inaugurated for some important work to be done during the coming year, and W. A. Wiedebusch, the newly elected president, stated that he has under consideration several matters to be brought to the attention of the members during the next few months.

A list of the delegates present follows:

Fairmont: Thomas C. Lynch, Basil Layman, C. E. Mumford and W. A. Wiedbusch. Clarksburg: A. J. Simmonds. Grafton: Ed. Hostler. Mannington: F. L. Hawkins. Charleston: A. O. Lee. Cameron: J. F. Duncan. Richwood: W. A. Hamilton. Chester: H. L. Parker.

Charles L. Titus and H. L. Burd, of Uniontown, Pa., were present as visitors from the Southwestern Master Plumbers' Association, which comprises the western part of Pennsylvania, West Virginia and Ohio. The regular monthly meeting which was held on the evening of the 15th by this association was attended by the majority of the delegates to the convention.

Among the supply men who were present in the interests of their several houses were: A. W. Nash, of the Pittsburg Water Heater Co., Pittsburgh, Pa.; W. I. Creuse, of the John Douglas Co., Cincinnati, O.; Bill Bryar and Charles Long, of the Bailey-Farrell Co., Pittsburgh, Pa.; Thomas Boak, of Kelly & Jones Co., Pittsburgh, Pa.; F. G. Harlan, of the Humphrey Co., Kalamazoo, Mich.; Baird Reed, of the Standard Manufacturing Co., Pittsburgh, Pa.; Mike Godfrey, of the M. Glauber & Co., New York; Jacob Ellen, of the C. Hommell Co., Pittsburgh, Pa.; and W. G. Simpson, of the Harris Pump & Supply Co., Pittsburgh, Pa.

All Comets Can Be Seen to Greater Advantage by the Aid of a Telescope. The Galveston Comet Can Be Enjoyed by All Who Possess Telescopes or Grips. We are Having a Strenuous Time Writing Weighty Lines to Hold It in Our Page-Limits. It Went Up on Us Six Lines This Issue. Is the Grip Packed Yet? Get Busy.

Marshalltown, Ia.—C. R. Diffenbacher has purchased F. E. Bailey's plumbing business.

Hutchinson, Kan.—Albert Morrow has been appointed plumbing inspector in this city and he assumed his new duties on May 1st.

Columbus, O.—Seventy-eight master plumbers and 87 journeymen have passed successfully the examinations of the city board of plumbers, and have received the certificates required by city ordinance. There are only a few more master plumbers to be examined and approximately 80 more journeymen.

The Range Boiler and Connections

Uses, Abuses and Modifications

By Phoenix.

Introduction.

Many articles and some books have been written upon the range-boiler and its doings, yet the problems still linger with us, as is shown nearly every week by the letters to the "Questions and Answers" department of this paper. In the articles following an attempt will be made so to group the facts in a practical manner, that a man can take the data, look over his work and say to himself: "Now, that won't work, for here's the dope that shows me where I am going wrong."

We can't comment upon every kind of a "hook-up" that may be made, but matters can be so systematized that any one having the sense of a goose, should be able to figure things out for helmself. If you read the complete series and then can't come reasonably near telling what the range-boiler will and will not do, we'll have to admit that the goose is the wiser.

Chapter I.

The kitchen range-boilers most commonly used today are made of galvanized iron and vary in size from 30 to 60 gallons. Occasionally a larger size might be used, but for one bath-room in the ordinary residence it will be found that the 40-gallon boiler has the general preference. This boiler as a rule is set in a more or less obscure corner of the kitchen. Sometimes, when its heat is required there, it may be placed in the bath-room, provided such location be not too far from the water-front, say 60 ft., horizontally. Again, if the kitchen be small and the range-boiler would be too much in the way, it may be dropped to the cellar or basement underneath the stove, though such an arrangement is not the best practice if it can possibly be avoided. The relative position of boiler and stove may be reversed, the stove being in the basement while the range-boiler is in the kitchen or even on the second floor, as is the case in some flat dwellings.

The range-boiler may also be slung in supports at the back and directly over the range, as is provided for by manufacturers of some classes of ranges. These different locations of the range-boiler with respect to the position of the water-front have been mentioned for the purpose of showing that if the circumstances so require it is not necessary to have the range-boiler and water-front close to each other.

The manner in which the range-boiler located in an unusual manner can be connected and work properly will be shown later in the series. In spite of the fact that the range-boiler may be placed at different distances from the water-front, the following practical point should be taken into consideration: When the boiler and water-front (or water-back) are located on the same floor, the more closely that they can be practically connected and the fewer and easier the turns of piping made in so doing, the better will be the circulation between the water-back and the range-boiler.

In modern practice the range-boiler and water-back are connected together by galvanized iron-pipe, lead-pipe having been almost entirely abandoned for this purpose except in a few parts of the country. This galvanized pipe should be of the best grade to be obtained, smooth on the inside, and in cutting it should be thoroughly reamed so as to give the free use of the pipes full size for the flow of the water. The combination of a careless workman and a dull cutter-wheel can reduce the efficiency of the pipe nearly one-half. The size of pipe used in connecting the boiler and water-back should never be less than ¾-in. Even this size will be stopped up in a few weeks' time, in certain localities, unless some means be taken to prevent deposits of substances that are contained in the water.

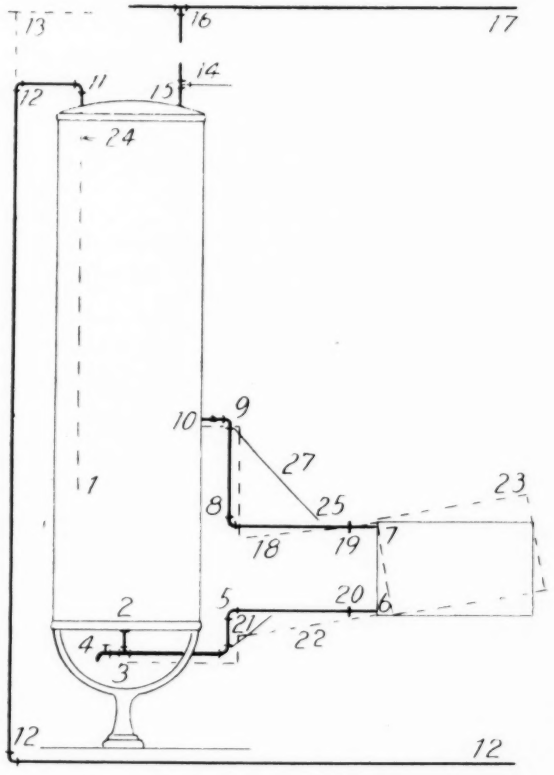


Fig. 1. The Range-Boiler and Its Connections.

The drawing given might not pull down the blue ribbon at a county fair, but it is designed to show by the numbers some different points which are to be discussed in this part of the series.

The water-front and light dotted lines from it to the range-boiler are somewhat exaggerated in order to avoid confusion. The position of the dotted water-front likewise, as any one should know that no water-front, in actual practice, would be installed so much out of level as this one is shown to be.

In the drawing given, the cold water enters the range boiler through the cold-water pipe which is numbered 12, 12, 12. The boiler might be the last fixture on the cold-water line, in which case it might be connected as shown at the top of the range-boiler in the drawing by the figures, 12, 11, and 1. In this case, the cold water to the different fixtures, such as the tub, lavatory, closet and sink, will have been taken off before the cold-water pipe reaches the range boiler. At this point I want to call attention to the short pipe numbered 12, 11. When installed in this manner, there is a chance for an air-pocket at this point. This air-pocket may not last forever but may give some trouble at first, the more so if the pipe be not reamed and has been cut with a poor cutter. The chances are that, if this pipe is not over 6 or 8 in. long and has been reamed, whatever air might lodge at this point will be carried ahead and make its escape at point 24, the opening in the cold-water tube inside of the range-boiler, and thence would be drawn out of some of the hot-water faucets.

The cold-water tube in the boiler shown by the figures 11 and 1, is very frequently made too long and allowed to come within two or three inches of the bottom of the range-boiler. In such a case, if the hole in the tube, shown by figure 24, ever gets stopped up (a thing that is sometimes liable to happen), there is direct danger of siphoning the boiler and also emptying the water-front, under certain conditions. In such a case, if a hot fire be in the range and fresh water admitted to the system, it is nearly certain that the cast-iron water-back will explode. Another thing that might occur, if the job was siphoned and no air worked in to break the vacuum caused by the siphoning of the boiler, the range-boiler might collapse if it were not strong enough to stand the atmospheric pressure. It will be observed in the drawing that the cold-water tube 11 to 1 is cut short enough to leave some three or four inches of water above the water-front in case any of the dangers mentioned should accidently occur.

"TECHNICAL PLUMBING AND SANITARY SCIENCE."

"Technical Plumbing and Sanitary Science" is a manual written by S. Barlow Bennett, a consulting sanitary engineer and a lecturer on sanitary engineering and instructor in practical plumbers' work to the Durham County Council, England. The author, who is his own publisher, says in his preface that "he has attempted to collect and prepare in a straightforward manner the chief items of interest and importance that should be known by all plumbers." We wish to go on record that he has made good. We don't believe that there is any book in the market today catering to the interests of the plumbers and steam-fitters which contains more information in a limited space than Mr. Bennett's work on "Technical Plumbing and Sanitary Science." The illustrations are exceptionally clear. The information provided is in short paragraphic form, and devoid of ambiguous expressions and indefinite phrases. We reproduce a paragraph on "Water Hammer in Pipes," which will give a better idea of the character of the work than anything we can say.

"This peculiar noise occasionally heard in water-pipes often causes much annoyance and unnecessary alarm. An interesting apparatus made of glass, to illustrate the water hammer in pipes, can now be obtained which explains clearly the cause of this knocking noise. The apparatus mentioned consists of a glass tube six inches or eight inches long and about five-eighths of an inch diameter, on the end of which is blown a bulb about one and one-half inches in diameter. The bulb is partially filled with water, the water then raised to boiling point to expel the air in the tube, and the end of the tube then hermetically sealed. When allowed to cool, a small quantity of water is obtained contained in a partial vacuum in the sealed tubes. If the glass apparatus is now held horizontally and moved sharply backwards and forwards, a knocking noise is heard similar to the bumping or knocking noise in the water pipe. Thus it is seen that the noise in the water pipes is caused by the water falling in a partial vacuum, and when the water comes in contact with something firm or rigid, to check its fall, the knocking noise is the result. Longer pipes cause greater noise than shorter lengths, and horizontal lengths of pipe often cause greater noise than vertical lengths. Plug-taps or valves that close quickly are more liable to cause water-hammer than slowly closing taps."

The price of this valuable addition to sanitary literature is only $2 net, and it can be obtained from the Book Department of "Domestic Engineering" or from the author direct. The author's address is: S. Barlow Bennett, Portland House, Jesmond Road, Newcastle-on-Tyne, England.

"THE REPORT OF CHICAGO DEPARTMENT OF HEALTH."

The Department of Health of the city of Chicago has just issued its report for the years 1907 to 1910. It was issued under the able supervision of Dr. W. A. Evans, Chicago's Commissioner of Health, and is full of "Evansisms" from the first page to the last. For that reason, it is highly interesting. The "healthgrams" make good reading, and the report is as complete as the work of the health department has been conscientious. Chicago has reason to be proud of the excellent results accomplished.

"HEALTH HINTS."

"The greatest wealth is health," says "Health Hints," an interesting book by E. R. Pritchard, the secretary of the Chicago Department of Health. The subject-matter of the work was originally published in newspaper-form as a part of the educational and publicity work of that department. They have proved effective in their first appearance in bringing to thousands the first glimmers of light concerning the gospel of good health. In book form, they are advantageously placed in the hands of the general public to further still more the cause of sanitation. The intelligent reader can get good pointers for business-talking points by the reading of this valuable volume and fresh inspiration and confidence in the value of his daily sanitary efforts. We need all the help we can get in our life-work, and this book of hints is another shoulder to the wheels of progress. "Health Hints" can be secured from The Reilly & Britton Co., Chicago, or from the Book Department of "Domestic Engineering." The price is only 50 cents, net.

LED TO HUGHES BY HUGHES' LEAD.

W. W. Hughes, Hughes Heating & Plumbing Co., 1514 East Franklin Ave., Minneapolis, Minn., pulls off many good advertising stunts during the year. The illustration shows one of them. Brother Hughes believes in the

Hughes' Lead Pencil and Its Message.

power of the lead pencil, for a pencil can be lead but a pen has to be driven. The pencil is attached to the letter by an adhesive label. The pencil is a good one and has been seasoned to refuse the writing of complaints.

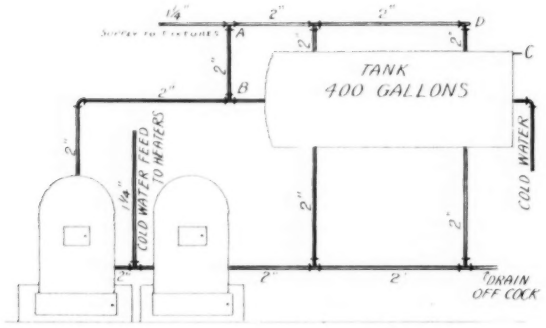
Little Alice went home from school one day with a playmate, whose parents were poor. She had a good time, and was telling her mother about it, when she said soberly: "But, mother dear, they do one dreadful thing. I hate to tell you, for it's kind of cruel and you mightn't let me go again." However, the desire to tell it prevailed, and in an awful voice she whispered, "They use their own grandmother for a cook!"—Selected.

QUESTIONS AND ANSWERS

CONNECTIONS FOR HOT-WATER SUPPLY FROM TWO BOILERS.

Editor "Domestic Engineering":—Being a subscriber, I would be pleased to be informed if the connections of hot-water supply shown on the accompanying sketch are correct or will work. If not, please let me know what is wrong. W. T.

We would eliminate the pipe which is marked "A B" in the drawing. This pipe would draw the hot water directly from the boilers, and, if an unusual amount of hot water was drawn, would rob the tank of its supply. The two boilers should have no difficulty in keeping the tank



A Hot-Water Supply System.

hot, provided they are of the proper size. At point "C" a tap should be made and a vacuum valve put on, in order to avoid the danger of siphonage. You will find it an advantage, also, to put on an air valve or pet cock at the point "D".

This "hook-up" is somewhat different than the ordinary manner of connecting large tanks, which would be to treat the tank like a range boiler, admitting the cold water to the tank, and regarding the heaters as the water front, or means from which the heat was derived, and we think the cold water should be admitted to the tank, as shown in the sketch. The two boilers can then be "twinned" and the job should work.

CLEANING THE PIPES TO THE URINAL.

Editor "Domestic Engineering":—Will you be kind enough to tell me some means to remove the coating that sometimes comes on the waste-pipes of the urinal? G. S.

You can use sulphuric acid in the proportion of about four or five parts water to one part of the acid. Do not throw the mixture all in at one time, but pour it in at intervals.

USING THE HACK SAW TO ADVANTAGE.

Editor "Domestic Engineering":—The other day I had occasion to cut several slots in a piece of iron. The hack saw was not wide enough, a file was too slow and the cold chisel could not be used for the purpose. So I took three of the hack saw blades and put them in the saw frame and tried the trick. It worked all right, so I though I would tell you about it for the benefit of some of the readers. Saws.

KEEPING THE TAR FROM SHOWING ON THE SOIL PIPE.

Editor "Domestic Engineering":—The stack comes down through the kitchen on a job that I have been doing and I wish to paint the pipe. What can I do to prevent the tar from striking through the paint as it most generally does in such cases? "27."

Do not attempt to put on the paint until you have fixed the pipe properly. Get some shellac and give the soil pipe three or four coats of same, after which the paint or bronze may be applied and the tar will not come through.

ANOTHER USE FOR CHEWING GUM.

Editor "Domestic Engineering":—A customer of mine showed a little common sense the other day in stopping up a bad leak in the gas stove and still not stopping her work until I came. It was so very easy that I thought I would send it along to the paper.

A bad leak developed on one of the pipes and she simply chewed up a wad of chewing gum and swiped it around the thread and then called me up on the 'phone. When I got there I found the thing as tight as a drum and have no doubt but that it would have carried all right for several days had it been necessary. O. T. C.

HOW TO FIGURE RADIATION WITH SOUTHERN EXPOSURE ONLY.

Editor "Domestic Engineering":—In all the rules and data on figuring radiation, nothing has ever been shown in "Domestic Engineering" where at a glance the percentages to be added for exposure, on a given heat loss for southern exposure only, could be easily ascertained.

The diagram shown with percentages in the form of factors might prove useful to some of your readers on account of its accuracy and simplicity. The factor .3 for southern exposure is based on the average winter weather on a line drawn from St. Louis, Mo., to St. Paul, Minn., and has been used with marked success in estimating the radiation required in buildings of average construction in the latitude stated.

The total heat loss of glass, walls, and cubic contents, as shown in the example, is easily committed to memory and is for steam only. Multiplying the results obtained by 1.6 gives in amount the equivalent of direct hot-water radiation.

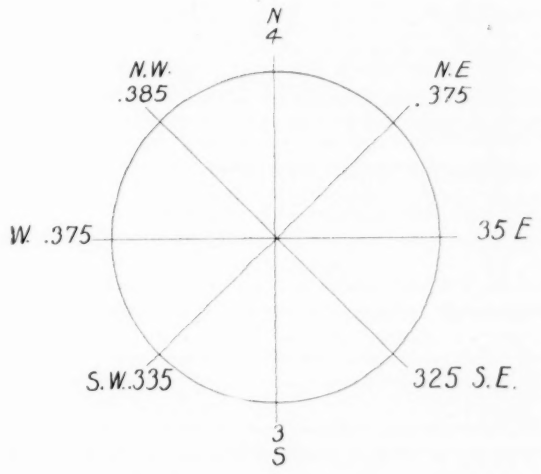
Briefly stated, the rule is: Sq. ft. glass × 1½ sq. ft. exposed walls ÷ ¼ and cubic contents × by the number of air changes ÷ 100, and the sum multiplied by the factor of exposure, gives the sq. ft. direct radiation required.

Example: A room 15 ft. x 20 ft. x 12 ft., one side exposed, 3 windows 3 ft. x 7 ft., 1½ air changes per hour,

outside temperature zero, temperature of room 70 deg. F., heated by steam at atmospheric pressure.

Glass $7 \times 3 \times 3 = 63 \times 1\frac{1}{2} =$	94.50
13-in. wall 240 sq. ft. $- 63 = 177 \div \frac{1}{4} =$	44.25
$3.600 \times 1\frac{1}{2} = 4,800.$ $4,800 \div 100 =$	48.00
	186.75

$186.75 \times .3 = 56 +$ sq. ft. radiation for a southerly exposure only.



Chas. L. Hubbard, in some rules for radiation, states that factors for exposure should be for

N. 1.32	N. E. 1.22
E. 1.12	N. W. 1.26
S. 1.	S. E. 1.06
W. 1.20	S. W. 1.10

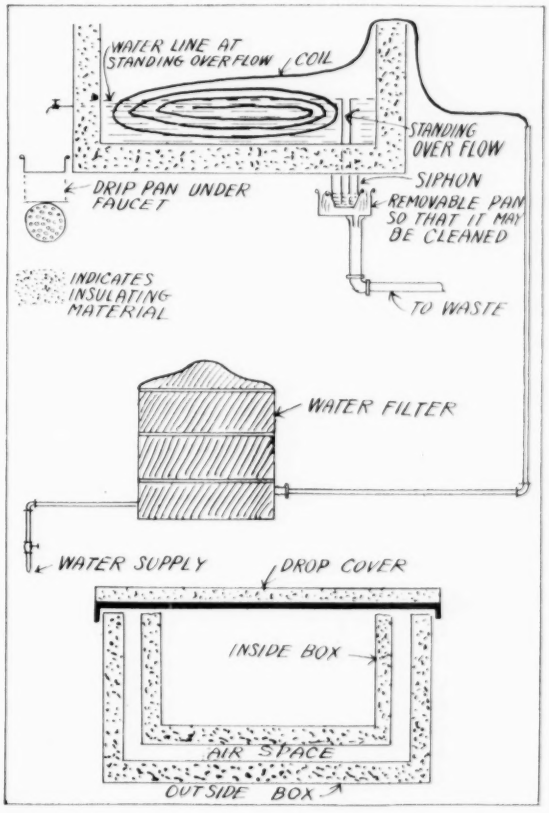
when zero and 70 deg. and southerly exposure are unity, and heat losses are based on his tables, which have been published from time to time.

Chicago. Geo. M. Tait.

HOW TO SECURE COLD WATER IN TALL BUILDINGS.

Editor "Domestic Engineering":—Noting the inquiry of K. S. G., who asks for suggestions concerning a manner in which water sufficiently cold for drinking purposes can be obtained at the top-floor of a building, say, 15 stories in height, I should say that satisfactory service at a reasonable cost for installation of the apparatus may be obtained (providing, of course, that the premises are supplied with running water, and that the water so furnished is fit to use for drinking) by fitting up a box of suitable size in which is placed a coil made from pure block tin pipe, say ¼-in. pipe size, the coil to be connected both with the water-supply and a faucet from which the water may be drawn. To keep the water cool, place ice in the box, and when arranging the waste, it would be of some advantage to place at the outlet tube inside the box a standing overflow pipe cut-off at a desired height, so as to hold cold water in the box, in which the coil may remain immersed. A box, constructed in such a manner as to keep the warm air in the room from penetrating the ice chamber, would add considerably to the saving of the ice, say, for example, a box to hold the coil, which should be covered and also filled in with a good quality insulating material, and this box should be placed in an outer box also filled and lined as described. The outer box should have a drop cover arranged so as to make the space within as nearly air-tight as practicable.

In outfits of this description, when arranging the waste-pipe used to carry away the water resulting from the melting ice, it should have attached what is termed a siphon-cup. This is an inverted cup-shaped piece arranged just under the outlet at the bottom of the box, and its function is that by means of the water-seal obtained through its use, cold air is prevented from escaping in a continuous stream through the waste pipe to waste, and, as cold air compared with summer air is heavier, it will fall if allowed and escape through the waste-pipe as stated, unless some means is provided to prevent it, thus causing an unnecessary waste of ice, hence the advantage of the siphon-cup. If desired, a water-filtering apparatus may be connected on the line leading to the ice-cooler.



Cold-Water Supply System for Tall Buildings.

Block-tin pipe is recommended for the purpose of making the coils, on account of its extreme flexibility and ease of forming to any desired shape, its excellent qualities of cleanliness, and on account of the quantity of water which will be left in it and which will be desired for use on opening the faucet.

It would seem unnecessary to state that the principal advantage attending the use of a coil for this purpose is that the ice does not come in contact with the water itself. An outfit arranged according to the description given in the foregoing is shown in the accompanying sketch.

New York. M. A. W.

By Henry D. McCormack, C. E.

XIII.

Branches to Fixtures.

In a plumbing code, under the title "Branches to Fixtures," the compilers have to consider not only the materials for those branches, but their locations, sizes and lengths of run. The materials for fixture branches we have already considered to a greater or less extent under materials for the drainage system; there were, however, some of the conditions left to be considered in this paragraph or section.

As was previously pointed out, when the branch pipes to fixtures are bedded solid in fire-proof partitions, or wedged tight in wooden partitions, they should preferably be of lead pipe, or of some other non-corrosive material, and so installed as to allow for the inevitable shrinkages, settlements and temperature changes inseparable from all buildings. When the soil, waste and vent branches are all open and exposed, and free from structural parts of the building, on the other hand, they may be of iron, for when they corrode through, the fact is immediately noticeable and the pipes are comparatively easy to get at to repair without tearing out tiling or plaster. Even then, though, the entire system ought to be supported so as to allow for movements of the building and piping without damage to walls, floors, fixtures or drainage system.

The location of fixture branches should be given considerable thought by compilers of a code. As a rule, it may be stated that a separate branch to the soil and waste stacks for each fixture will give the most satisfactory results, although there are cases where exceptions to that rule would be quite proper, while in other cases they would be more satisfactory. Take as an example the lead bend to a water-closet in private houses. In some codes the plumber is prohibited from connecting to the lead bends the waste-pipes from lavatory and bath-tub, but he is allowed to put in an iron bend, exactly similar in shape to the lead bend, and connect to tappings in these iron bends, the waste-pipes from lavatories and bath-tubs in exactly the places he would put them in a lead bend. This discrimination, or lack of discrimination, as the case may be, does not seem right. If it is proper to connect to an iron bend, it is equally right to connect to a lead bend; and while, theoretically, it is better to have separate branches in the vertical stack for each fixture in a bath-room, still, so many hundred thousands of bath-rooms have been connected up by wiping the lavatory and bath-tub wastes to the lead closet bends, and have given such general satisfaction that there seems no good reason to legislate against the practice for private house work where conditions are such that separate branches cannot be put in without complicating the work more than enough to offset what would be gained by the separate connections. In such cases where a prohibition extends to lead pipe, however, it should extend equally to iron bends, except in those few and isolated cases where the water supply deleteriously affects lead. In such localities it is not the connecting of the waste-pipes to the lead bend that is objected to so much as the fact that where the solder joint joins the lead the water affects the metal most and it is to reduce to the minimum the amount of lead in contact with solder that the rule is formulated.

It may not be common knowledge that some waters in the United States attack and destroy lead. The localities are few and scattered, but there are such cases, and where such conditions obtain, iron and copper should be resorted to as much as possible, the iron for general use, and the copper where flexibility is required. It seems strange to think of any kind of water affecting lead pipe when we know that under usual or normal conditions lead pipe will last for centuries and centuries without appreciable deterioration, however, it is in part those differences of conditions which must be taken into consideration when compiling a code, for each code must adopt rules suited to the conditions existing in the home town. In cities where the water affects lead pipe, lead supplies should not be used for water pipes, and tanks for the storage of water are better lined with some material other than lead.

There are, likewise, localities where the water destroys iron, the time varying from a few months to a couple of years, and in such places the minimum of iron should be used in the drainage system and as water supplies.

All soil and waste outlets, of course, will be low enough down so that a good fall and efficient drainage will be had from the several fixtures with stack connections. On the other hand, the branch outlets from the vent stacks to the various toilet rooms ought to be sufficiently high so that in case of a stoppage of any of the fixtures, the vent pipes cannot be used as waste pipes.

The use of lead pipe for soil waste and vent purposes has been restricted more or less in various parts of the country, in some places being prohibited altogether. This sweeping reduction in the use of lead pipe is due in the first place to a great extent to the practice of copying from one code to another, and in the second to a misconception of the intent or meaning of the orginal code.

New York City was the first to restrict the use of lead pipe for soil, waste and vent purposes. Prior to the compiling of the original code, lead pipe was used for soil pipe, and was at that time to be found, as it still is, in many of the old-time buildings. The compilers of the original code, wishing to prohibit the use of lead soil, waste and vent stacks, and at the same time retain in practice lead roughing for toilet rooms to give the system its much needed flexibility, adopted the following section:

"The use of lead pipe is restricted to the short branches of the soil and waste pipes, bends and traps, and roof connections of inside leaders."

Being called upon from time to time for rulings as to just what constituted "short branches," the following addition was subsequently adopted:

"'Short branches' of lead pipe be construed to mean not more than: 5 ft. of 1½-in. pipe; 4 ft. of 2-in. pipe; 2 ft. of 3-in. pipe; 2 ft. of 4-in. pipe."

It will be readily seen, when the conditions which obtained at the time that clause was adopted are considered, that the object of the framers of the code was to reject the use of lead where iron was better—for the stacks of soil, waste and vent pipes—and retain it for the branches where, on account of its long life and yielding nature, it was found the best material to use. A reading of the section without the light of that knowledge will show likewise how this provision of the code could be, and was to a great extent construed, as a sweeping condemnation of lead pipe, leaving the inference that it was to be absolutely prohibited in all cases possible, and retained for the short branches of roughing-in because, owing to its workability, it was indispensable there.

That was the impression gained by the trade at large, and in compiling codes in other cities—cities where they never had lead soil pipes—the same restriction is imposed and the same limitation applied, in some cases absolutely prohibiting the use of lead pipe. For instance, the Minneapolis code reads:

"Back vents shall be cast-iron, wrought-iron or steel, brass or copper. Lead pipes shall be used only in making short connections between the iron, steel, brass or copper back vents."

New Orleans still realizes the value of lead pipe as a roughing-in material, but the precedents established were too strong for her to withstand, so in compiling a code a liberal allowance of lead was specified and the restriction imposed. The code section reads:

"Where lead pipes are used for waste or vent pipes, they shall not be over six feet in length, and shall be supported the entire length."

In San Francisco they seem to go the whole limit, and while not mentioning lead pipe, prohibit its use altogether. They require that

"All vent pipes shall be galvanized wrought-iron pipe and all fittings to same shall be galvanized."

Hereafter, then, when compiling a code, the real object of the original prohibitors of lead pipe for soil and waste pipes should be kept in mind. The value of lead pipe and its limitations, as with other materials, should be weighed in the balance, and when found wanting, prohibited; whereas, when found suitable, permitted; and when found desirable, or necessary, required.

(To be continued.)

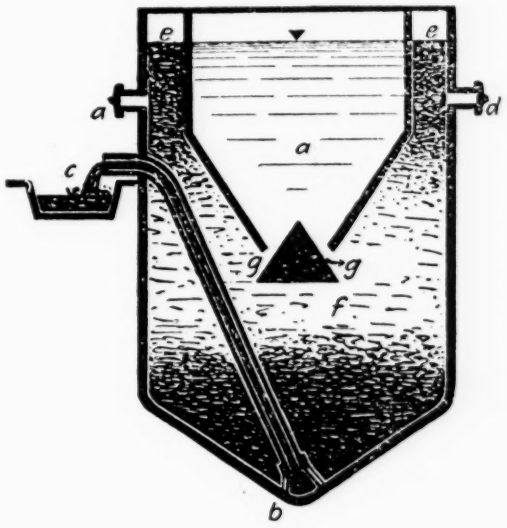
THE IMHOFF SEWAGE-PURIFICATION TANK.

In many ordinary types of sewage-disposal works it has been found that the gases that rise from the deposits on the bottom of the tanks bring about a disturbance of the sludge and cause some of the finer sludge particles to pass out with the effluent. While passing through the tanks, the sewage tends to become septic through contact with the sludge and the gases of decomposition. To overcome these and other defects, Dr. Karl Imhoff, now chief of the Sewerage Department of the Emscher Sanitary District (Germany), devised a sewage-purification tank of which a verticle section is here shown, taken from "Engineering News."

The sewage enters the settling chamber a, the suspended solids, sinking to the bottom, slide down the smooth sloping surfaces shown, and pass through the slots g into the sludge well f beneath. The sludge is thus separated quickly and completely from the sewage. The gases of decomposition do not reach the sewage but escape into the air through openings found at e. The sludge gradually decomposes and finds its way to the bottom of the sludge well, whence it is removed a little at a time through the pipe b-c.

From one to two hours is allowed for the sedimentation of 95 per cent of the suspended matters in the sewage. The sludge undergoes decomposition or septicization for a period of four or five months.

The gas arising from the sludge is found to be free from odor; practically no sulphuretted hydrogen has been



The Imhoff Sewage-Purification Tank.

found on analysis. The small amount of scum which collects on the surface of the water in the sludge wells is removed through outlets shown at d.

The sludge from the tank flows in concrete channels to drying-beds, where it becomes dry in three or four days. It has no objectionable odor, and can be used for filling in low areas. It is dark gray in color and develops luxurious vegetation after a few months.

A number of such disposal plants now in operation close to thickly populated districts do not occasion complaints of any sort. At Schwerin, Germany, the sewage of the entire city is settled and treated in Imhoff tanks without odor and within sight of the Ducal Palace, one of the most beautiful in Europe.

A tank of this description has been operating in Philadelphia for about two years at the suggestion of Rudolph Hering, and the experiment has proved satisfactory. A similar test is being made in Chicago. Imhoff tanks have been recommended by Mr. Hering for a number of communities, including Batavia and Oswego in New York.

TIPS FOR THE TRADE.

Sumner, Wash.—Plumbing will be done by Charles A. Myers, who has recently bought out Bray & Baker. Catalogs on supplies are requested.

Attleboro, Mass.—The Brownell Hardware Co. is erecting a large business house which will be ready for occupancy about fall. Plumbing will be made a salient feature of the business.

Schuylerville, N. Y.—G. S. McRae has disposed of his business to H. A. McRae & Son, and especial attention will be given to plumbing and heating hereafter. Plumbing supplies are being carried.

Allentown, Pa.—Joseph P. Sieger has opened a plumbing establishment at 822 Walnut St

BUSINESS MANAGEMENT

NEW METHODS FOR OLD

WHEN DOES A MERCHANT CEASE TO BE A MECHANIC?

Editor "Domestic Engineering":—In looking through your most valuable paper to-day, which is about one of the first things I do when it reaches me, I read the article, "The Relation of Profit and Loss to Expense." It is gratifying to me to read such articles, and gives me a great pleasure to know that there are others whose ideas on such matters are about the same as mine.

What a blessing it would be if the craft was made up of more of such men of thinking! If ever on earth a bunch of master plumbers needed drilling along the lines of "what is a legitimate profit," many of our master plumbers in my territory stand at the head of the class, not for what they know about profit, but for what they do not know.

We have master plumbers here who are figuring a profit of 20 per cent., and think when the job is completed they have actually made 20 per cent. profit on material and labor and they have made 20 per cent. profit above all expense f the shop. They never stop to think that rent, telephone, stationery, horse and wagon, insurance, license, tax on stock carried, bonds and many more things too numerous to mention—all these must come out of the great profit of 20 per cent.

Now, what is the cause of this? I have tried hard to solve the problem, and have thought it may come from the fact that most of us have not had the proper training. At least I would naturally suspect that would be the cause of it. I am going to mention facts I have observed in my immediate locality. In the first place, plumbers are not born; they are made. The most of us are limited as to education, perhaps did not go through the grade schools. We learn the business, and step by step we go along, and finally we notice that the boss is doing pretty well. He has bought himself a home, wears a large diamond in his shirt front, and to all outward appearance is getting rich. Then here is the starting of an inexperienced, would-be master plumber. He has noticed how, through his labor, he has made his boss rich, and he finally says: "I have made him rich, and if I can do so for others I can do as well for myself." He rents a place, puts up his shingle, and out he goes for a job. He lands one the first thing. How did he get it? By figuring cheap. "Why did he figure cheap?" will be asked. Well, he is not under pay, and has a shop, telephone, printing matter, and a few other things to pay for, so he figures if he don't make more than wages he will come out all right. Then, he will work harder than he ever worked while working for wages; so, if he beats his own time, he figures he has not done so bad after all. He figured eight days at $5.00 per day, and it only took him six and a half days, so he pats himself and says: "That ain't doing so worse, is it?" And there you go.

Another master plumber in the field takes work for nothing simply to get started, but he never gets to where he will put his kit of tools in cold storage and burn his overalls. He keeps on pegging away, doing his own work, and the really up-to-date plumber has to fight that sort of competition. When will the master plumber ever come to full understanding and realize that he is a merchant, and go about his business as a merchant should, not in dirty, greasy overalls? How much nicer it is when a prospective client enters the office and asks for the boss, and up steps the boss, white collar, clean business suit, pants creased, shoes polished. The client feels like shaking his hand when he introduces himself. On the other hand, if the boss comes dragging his feet, his hands and face smeared with grease, dirty, filthy overalls on, does the client reach out to shake his hand? Not much! I say, shine up, put on good clothes, have the appearance of a business man, quit this thing of trying to fill two places—those of a working plumber and a master plumber. You will then be able to tack on more than 20 per cent. and will surely make good.

I noticed some time ago where some one wrote to the Kansas City "Star," asking the editor:

"When does a merchant cease to be a mechanic?"

I looked faithfully for an answer to that inquiry, but it was never answered. Kindly let it be answered through "Domestic Engineering."

Kansas City, Kans. A. J. Meyers.

"LEAD PIPE" HAS A FEW WORDS TO SAY.

Editor "Domestic Engineering":—Some time ago I abandoned all talk on the "tri-trade" question, at the suggestion of the party who signs himself "Michigan." He wanted me to talk about something else, and I have.

Seeing that I am choked off, this "Michigan" now jumps into the ring once more and tells about a six trade conspiracy. All right, I have no objection and wouldn't care if he got a gang that could handle, sell and install all the goods that came from a first-class department store. Maybe he'll tell us some day that he has some plumbers who can bake, sew, scrub, paint, blacksmith and build flying ships. All right, go to it, old boy, and may you sleep sweetly when your strenuous career comes to an end.

I don't like his reference in one place, seeming to imply that yours truly is a booze fighter. In 20 years' work at the trade I was never "full" on a job, nor had to lay off on Monday from the effects of too fast a Saturday night. When I spoke of "the good things of life" I did not refer to that. A man can enjoy entertainments (the like of which would never appear in a small place) and various other things that go to make up life in the large city; he can do all these things and still be entirely respectable, and that is the way that I intended my point to be taken, although, perhaps, I did not make it plain.

If "Michigan" wants to get in some good and helpful dope, why doesn't he tell us something about the putting-in of some of these famous jobs that he has referred to? That would be helpful and none of us are so wise but that we could learn a point or two, if the chance were given to us. That's the way it strikes me, and I hope that he may be fair enough to see it from the same angle, or nearly so.

"Lead Pipe."

NO PREVIOUS EXPERIENCE NECESSARY?

Editor "Domestic Engineering":—Let's see. As I recollect there hasn't been so very much said, in the public prints at least, about the "hypothetical question" since they finished proving that Harry Thaw was a loon.

Now, whether this is because they haven't had any use for such things since, or whether they still exist, only in a different and unfamiliar form, I don't know. But there is a fellow here in our town who has bobbed up with a quiz which, while it may not be hypothetical is the very next thing to it—or ought to be if it isn't—for it is sure a poser and no mistake.

Here it is so you may judge for yourselves:

"If a farmer puts a hen into a box and ships her to a commission-man in the city to sell, and she lays an egg on the way, who owns the egg?"

You see, this town of ours is noted in more ways than just a few. By merely producing the genius who brought that question before the public don't you think she has shown some class? Well, I guess yes!

But the genius who produced the above interrogation is not the only genius this town has produced. No! No! Far be it from such; as witness the following ad.:

> MECHANICS, MACHINERY MEN, ENGINEERS, HUSTlers, to take orders for and erect ——— factory built "knock down" equipment for heating and plumbing the home. Work is pleasant and profitable (no house to house canvassing), and can be done during spare hours. No previous experience necessary. A few good towns in your locality not yet spoken for. Write today for 1911 proposition. ——— Heating Company, Minneapolis, Minn.

Well, what do you think about that? I'm going to leave it with you, masters just as it lays. Being only a journeyman I don't feel quite "t' hum" on this side of the fence. This much is plain to me though—it's a shame we have all spent so many years of our lives learning a trade and getting into a business when we might have waited till now and landed with one jump! What!

Minneapolis. B. T. U.

THEORY VERSUS PRACTICE—IN PLUMBING INSPECTORS AND OTHERS.

Editor "Domestic Engineering": "Lead Pipe," in the March 11th issue of this valued journal, puts the question as to the need of technically and scientifically educated plumbing inspectors instead of the practical man. While this question was to "Michigan," I asked "Lead Pipe" for a change of subject and therefore make answer.

In the first place, plumbing is not in my line, but as this question covers very broad grounds, I will make a general answer. First, my friend asks (passing the main question), "How much of this vast store of wisdom do our inspectors know which lies beyond the use of tools?" An up-to-date, practical man, who makes use of good trade-papers, reads the best books in his line, and thinks for himself, should have a working supply of this scientific knowledge. You will always find the best man in his respective occupation, a practical man,—a man who has always endeavored to learn that which is needed of him, and keeps abreast of the times with applied study.

Your "bright business-man" or "doctor" may "rise to the occasion" once in a while, outside of his sphere, for there are points in any business that may help in others, and no one as yet has formed a trust of knowledge, anyway. But let your scientific fellow follow a practical man week after week, and he'll be surprised to see some of his pet theories blown to atoms.

The scientist, the doctor, the business-man, are all right in their place, the same as the practical man is in his, and though he can be assisted, he can assist more.

Almost all the advancement in the heating-business in this country has been accomplished by practical men of brains who are right in the business, and this probably applies to plumbing as well. As our advancement is coming from the practical man, why then throw him off and take on theorists?

You say, a great deal has been said, of late, in honor of the practical man. This is well and just. We are coming to believe him the real builder of nations, and less and less is thought of the man with knowledge who cannot apply it. Better be a practical man always, than a scientific fellow with his mind filled with flimsy theories. Look at Europe; she seems top-heavy with great doctors and scientists, yet she is far behind in modern plumbing.

That part of science and technics which is not practical is worthless to us, and the practical man is the best judge by far of what can be applied to his vocation. Some of our greatest scientists have almost opposite theories on the same subject, still a very common person with but a fair amount of common-sense can tell you both cannot be right.

But do not construe me as being opposed to advancement. Get all possible improvements in your vocation, whether from the world of science, technics, or business, but have them practical.

"Michigan, My Michigan."

CLAIMS THAT THE "SQUIRE" HASN'T SAID ANYTHING.

Editor "Domestic Engineering":—In your issue of two weeks ago "Squire Hotfoot" tells us what his running expenses are. He does not say whether these different amounts are what they should be; he does not say whether these items, or at least some of them, should be increased or reduced in order to make more profit. As a matter of fact he has forgotten the main thing, that is the profit. Not a word does he say as to how much his net gain was for last year. Maybe he has been running his business at a loss, but we hope not. Did he come out even, or did he make something, or did he lose? Mr. Squire, the question is not so much as to how much you spend to do business, but it is, how much do you make? that is, how much have you made after you have allowed yourself fair compensation for your own work? Now, so that you catch the drift, Mr. Squire: Some plumbers do $40,000 to $60,000 worth of work in a year and have large running expenses, pay themselves well and have quite a tidy profit left at the end of the year, while others do from $80,000 to $100,000 worth of business in a year, have small expenses, draw very little themselves, and at the end of the year have nothing made, or at least only very little. Now, Mr. Squire, finish your story. Tell the readers how much you made.

Minnesota. "The Office Boy."

Youngstown, O.—The contract for heating and ventilating in the new $75,000 office building for the Republic Iron & Steel Co., has just been secured by the American Warming and Ventilating Co. of Pittsburgh.

Huntington, Ind.—B. J. Gibney & Co. have been awarded the contract for the plumbing of the new Wickenhiser building on North Jefferson street, their bid being just $1.56 lower than the next lowest bidder. The contract is a large one.

PIPING METHODS FOR INJECTORS OR PUMPS.

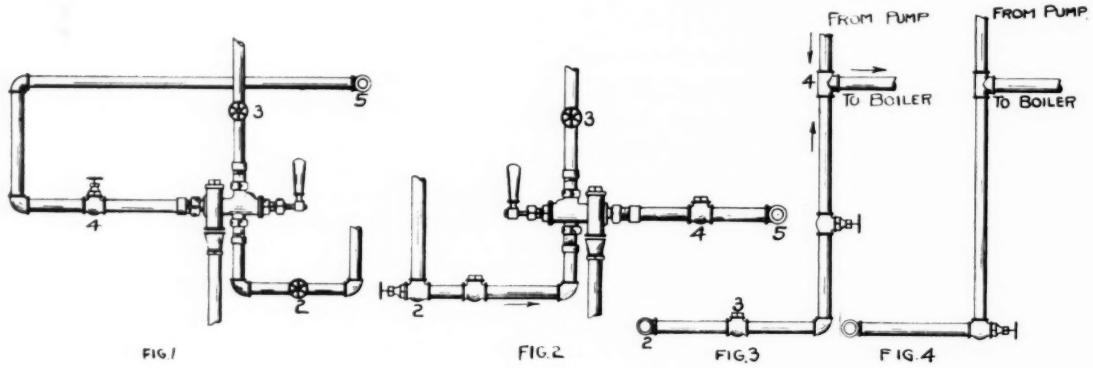
By W. H. Wakeman.

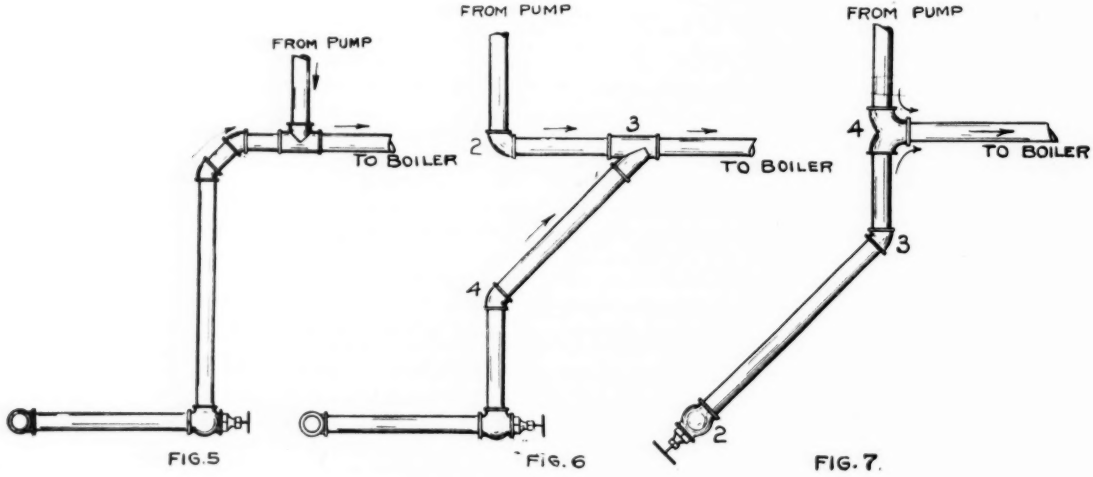
In order to illustrate points concerning good practice in the arrangement of ordinary piping, I will present the connections for an injector located in a not distant boiler room, and make suggestions for improvements along this line.

Fig. 1 shows the injector as the steam-fitter left it. Water under pressure is admitted by the valve 2 and steam is turned on at 3. This water goes through the feed-valve 4, passes the two ells shown, and is delivered to 5, which is another ell, forming part of the combination. The whole arrangement, except one thing, is awkward and not mechanical. The injector is located so that the starting lever can be handled conveniently by the engineer when using his right hand. To a certain extent this is proper, but its advantages are not sufficient to compensate for its objectionable features.

Fig. 2 shows an improvement, although the handle of the injector is now on the left hand side, still this is not a serious objection, as it can be started and stopped by either hand at pleasure. Water is admitted by the angle-valve 2 and passes through the check-valve as shown by the arrow. A check-valve is needed at this point to prevent hot water from filling the cold-water pipes and causing trouble throughout the building, in case the injector "kicks" during the temporary absence of the fireman, and steam is thus sent where it is not wanted. Steam is admitted at 3 and a good check-valve is provided at 4, which is near the injector, where it ought to be. A check-valve forms part of the system beyond what is shown in Fig. 1, but it is too far from the injector. An ell appears at 5, the other outlet of which is illustrated at 2 in Fig. 3. The check-valve above mentioned is shown at 3 followed by an ell and a globe-valve.

The tee, 4, is a very bad arrangement for the reason that the feed piping of a boiler ought always to be arranged so that the pump and injector can be run at the same time, in case it should ever be necessary or convenient to do so, but this point was apparently not considered in this case. As water from the injector goes into 4, it is met by water coming from the pump, as indicated by the upper arrow, hence its momentum must be entirely overcome before it can be turned at right angles and sent to the boiler. Occasionally an injector can be found that will do this, while it is new and in good order, but such a case is an exception to the general rule. If two pumps were used the case would be quite different but an injector does not feed positively like a pump.





Even Fig. 4 is an improvement as the globe-valve is not used, hence friction is reduced. The angle-valve shown is fully as good, if not better, and the check-valve is placed as illustrated in Fig. 2. Fig. 5 is better because water from the pump does not meet the supply from the injector squarely, hence the natural resistance is much less. This is not the best arrangement that can be de-

vised, but it is made from the common stock carried by any plumber and steam fitter, as an ordinary tee is used, and two 45 deg. ells.

Fig. 6 is better still as the direction of flow of water from the pump is turned by the ell, 2, and delivered to the Y 3, thence going into the boiler. Water from the injector passes the 45 deg. ell 4, and goes into the Y without meeting special resistance from momentum. This fitting is not always carried in stock, as it is not used as much as tees and ells, but it can be procured from the makers at reasonable notice. Fig. 7 offers less resistance from friction than any of the foregoing, as the angle-valve 2 is used in place of the first ell shown in Figs. 5 and 6. The 45 deg. ell 3 offers little resistance to the passage of water, and as it is delivered to the long-sweep double-branch ell 4, it mingles with water from the pump going in the same direction, therefore the only resistance to be overcome at this point is caused by boiler-pressure. One objection to this plan is that the stem of 2 stands at an angle, when it would look much better if it was either vertical or horizontal.

Observation has taught me that when the man who installs the piping of a plant does not intend to operate it when finished, the details mentioned here are frequently overlooked, yet they are of sufficient importance to make all of the difference between success and failure in the really successful operation of a plant . This does not mean that an engine cannot be run unless all of the feed-piping is first-class, but it is always better to reduce friction to the lowest practical point.

BECOMING A LICENSED MASTER PLUMBER.

By J. F. Brady.

There are many men who aspire to become the head of a plumbing establishment, and who believe themselves pretty well equipped with the necessary knowledge to properly conduct one, both in its practical as well as executive branches. And there are likewise many of these aspirants who are not capable of bearing the title of master plumber for the reason that there are many of the details they lack.

One must not only be practical but he must be capable of handling his men to the best advantage to himself and his work; he must know the right materials to have and the time to use them; he must know how to figure his work (which is probably the most essential end of the executive part of the business), so that he always gets in the item of "profit" in the right place; but, most of all, he must be able to pass the required examination of the local plumbing board by a wide margin over the "necessary mark", in order to show the authorities that he knows the business well enough to be known as a master plumber.

Nearly every city of prominence in the United States now has an examining board of plumbers whose duty it is to examine applicants orally or in writing, with or without practical tests into their ability to conduct, and knowledge of, the plumbing business. In some cities I am informed the examination is comparatively simple and easy to get through; in some places the applicant for the honor of master plumber's title is up against wiping joints, caulking, etc., as well as a verbal quiz, while in the District of Columbia the examination is entirely written.

In the District the examination consists of a number of questions pertaining to the requirements of the plumbing regulations covering the installation of work, and the determining, in the manner prescribed by the examiners, of the familiarity of the applicant with plans.

The Board of Examiners in the District consists of three members, one a representative of the District government, one a master plumber, and one a journeyman plumber, qualified to hold a license as a master. Each member marks the papers separately, the average of the total marking being taken as the passing percentage, this method being most equitable and just to each applicant. After the examination is over and the aspirant finds he has failed, the law refuses to allow him to take another examination until the period of three months has elapsed. If he is notified that he has passed, he is called upon to furnish a bond in the sum of $2,000 for the period of five years (the period of the license to be issued); he is allowed to give either a bond or a recognized bonding company of good standing, or personal surety, the latter being three persons holding real estates valued at not less than $2,000 each, making $6,000 in all. Upon the approval of all the papers by the authorities a license is issued, which is usually framed and hung up in the office of the master plumber.

The bond which is required to be furnished to the District is for protection to the District against law suits which may follow, due to the fault of the master plumber in not properly protecting his excavations and other work from damage to pedestrians and others. In such case, where the District is sued, the District calls upon the bondsmen to make good, and they naturally come back on the plumber.

At the present time the license fee in the District of Columbia is three dollars, which fee is continuous, there being no charge made for renewal or transfer of licenses from the single name to a firm name.

A feature in vogue in the District of Columbia which is probably not used elsewhere is a system of charges against a "plumber's cut deposit." Before a permit to excavate will be granted to a master plumber after he has secured his license to practise the business, it is necessary for him to deposit with the collector of taxes the sum of $25, which is entered on the books of the engineer of highways to the plumber's credit, and each time an excavation is made in a pavement, street, roadway or footway, the plumber is charged a certain rate per square yard for repair (all repairs being made by the District), and this amount is deducted from the said deposit and placed to the credit of the District. When a plumber's account gets below $15 he is notified of the state of the account, and on the first of each month he is rendered a bill which must be paid in order to bring his account to the $25 mark again, and before any further permits will be issued to him.

DELEGATES TO GALVESTON FROM THE PITTSBURGH ASSOCIATION.

At a meeting of the Pittsburgh Master Plumbers' Association on May 16th, the following delegates and alternates were elected to attend the National Master Plumbers' Convention in Galveston, Tex., June 13-14-15: Frank McKnight, Allan McFadden, Joseph Rice, E. M. Tate, M. J. Kenna, George B. Stewart, A. S. Whitehead, P. J. Montague, W. J. Elkin, M. Snively, A. J. Zilliox, Harvey Lewis, jr., W. H. Rowswell, F. J. Scheib, Robert Henderson, Adam Redenbaugh, T. R. Marshall, J. C. Leubin, James Walker, Joseph A. Weldon and D. G. Deeley.

Alternates: Harry Bolekey, George W. McKay, C. L. Bachman, jr., J. C. Godfrey, J. W. Scott, W. P. Reardon, Peter Raehm, Maurice S. Martin, E. C. Weber, R. J. Hannon, George Schade and J. F. Matter.

It is not expected that every delegate will attend the convention, but a good party can be assured from Pittsburgh.

THE METAL MARKET

STATIONARY PIG-IRON MARKET.

The Supreme Court decisions have little effect on the pig-iron market; other considerations are of more importance to the immediate future of the iron market. In the long run, of course, the influence of the Standard Oil decision would be felt, but whether the optimistic appraisement put on the decision by the speculative markets will continue is another matter. It may be after the first rush of enthusiasm is over the markets will fall down and lag as they have heretofore. A few contracts are being held up on account of consumers being unable to take deliveries, but as a general rule consumers are taking the iron according to contract. Foundry business continues exceedingly dull in the West and prices for the most part are unchanged as follows:

No. 2 Southern foundry, Birmingham	$11.00 to	$11.50
No. 1 Northern foundry, New York	15.75 to	16.00
No. 2X Northern foundry, New York	15.25 to	15.50
No. 2 plain, Northern foundry, New York	15.00 to	15.25
No. 2 Northern foundry, Chicago		15.00

OLD IRON.

The market is neglected and quotations for the most part represent individual bargaining between buyers and sellers. Quotations are as follows:

No. 1 yard wrought, long	$11.50 to	$12.00
No. 1 yard wrought, short	10.00 to	10.50
Heavy-melting steel scrap	10.50 to	11.00
Machinery cast	11.50 to	12.00
Wrought pipes and tubes	10.50 to	11.00
Malleable castings	10.00 to	10.50
Wrought turnings	6.00 to	6.50
Cast borings	5.50 to	6.00
Stove plate	9.00 to	9.50
Light iron	4.50 to	5.00

HIGHER PRICES FOR TIN.

Tin business has shown considerable improvement, quite a little metal going into the hands of consumers, and tin selling up to 43 cents on good business. Arrivals have not been heavy and there is a comparatively small amount of tin afloat for American ports.

LEAD.

The market continues weak. It is possible to buy lead from independent sellers at 4.40 cents and from American Smelting & Refining Company at 4.50 cents in New York.

SPELTER.

The spelter market is exceedingly dull and quotations are normal. In New York 5.50 cents is asked and in St. Louis some consumers are selling at 5.20 cents.

COPPER PRICES LOW.

Sales during the week have been made at the old low figure of 11.90 cents, but the market since that time has advanced and copper is now quoted at 12.25 cents, New York, for large lots. While consumption is large, the accumulation that is over-hanging the market has frightened buyers to such an extent that they are unwilling to enter the market until there is some assurance that the bottom has been reached. The foreign demand is excellent and domestic consumption is large, but production is still far in excess of consumption and stocks keep piling up. It is about time for the old reported copper merger to be brought out and paraded before the public with a hope of advancing copper quotations.

NEWS FROM ALBANY, N. Y.

A bill has passed the New York State Assembly making an appropriation for the establishment of a school of sanitary science and public health at Cornell University, Ithaca, N. Y. The measure was passed without objection. Mr. Bush, of Chemung, introduced the bill.

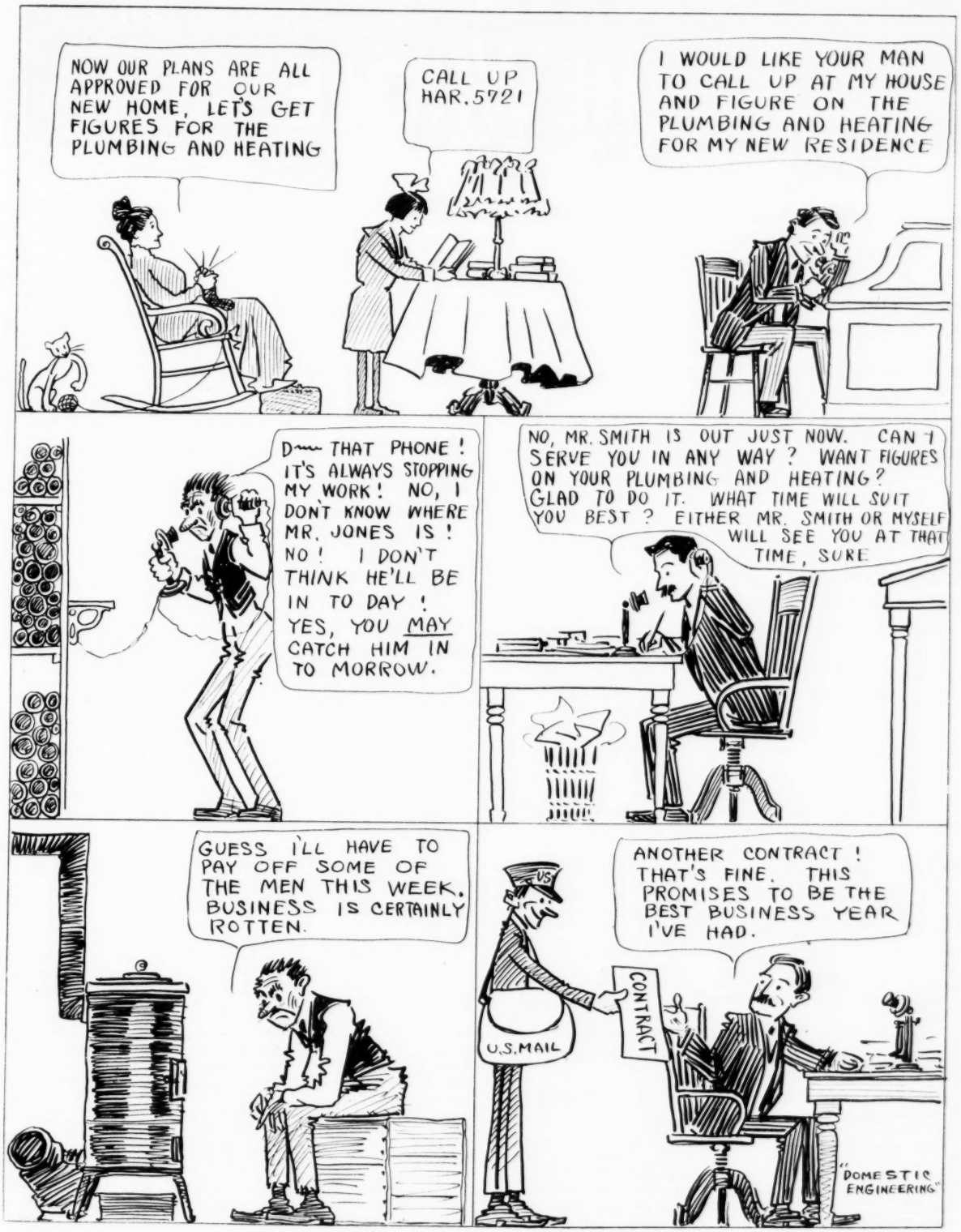
A bill has passed the New York State Assembly making more stringent the prohibition against discharging sewage into the waters of the state.

The funeral of Anton P. Goetz, son of Edward Goetz, one of Albany's old representative plumbers, was held at his father's residence, 211 South Pearl St., on May 11th. The deceased was for a number of years employed in the office of Hoy & Co., Albany, N. Y., dealers in plumbing and heating supplies, and had endeared himself not only to his employers and his official associates, but to the trade in general. He was a young man of excellent habits and had a large circle of good friends, who will mourn his early demise.

The city of Albany is defendant in a suit in the United States Circuit Court, instituted by Ira H. Jewell, of Chicago, for alleged infringement of patent rights of the complainant. He claims that he is the owner of patent 649,410, issued May 8, 1900, being a useful improvement in systems for controlling the operation of water filters. It is alleged that the city has used, sold or caused to be used or sold filters provided with the invention and the improvement claimed in the patent owned by him; and the court is asked to restrain the city from using or selling the said patented filter. There are 16 of these filters in use by the city, being situated at the filtration plant, and known as the preliminary filters, as the water from the river first flows through them in the process of purification. It is the opinion of the commissioner of public works, Wallace Greenalch, that the claim cannot be proved in the courts. He says that the filters were designed in the bureau of water, that there is no infringement in the patent and that they do not operate as is claimed by Mr. Jewell for his apparatus. It is also claimed that the filters are not sold by the city. The outcome of the suit will be interesting.

A bill has been introduced in the state senate by Senator Sage, of Albany, N. Y., providing for improved tenement-house construction and for remodeling old tenements and dwellings in Albany. A tenement house is defined as a building or any house, or portion thereof, which is rented, or occupied by two or more families. The common council is empowered under certain restrictions to establish a sanitary code and to amend same from time to time. The bill provides for adequate and proper ventilation of all rooms and for separate plumbing supplies and fixtures for each story and where any privy vaults exist, they must be abolished. Should owners neglect or refuse to make the required changes in their property after due notice has been given, the city is authorized to undertake the work and the cost becomes a lien upon the said property, the same as any other taxes. While various civic organizations are pushing the measure, considerable opposition, as usual, has been developed among the wealthy owners of poor property, with their usual disease-breeding features, illy lighted and ventilated rooms, lack of sanitary plumbing and general bad surroundings. The bill promises to become a law notwithstanding the active opposition.

"Domestic Engineering" Cartoon on "The Telephone as a Business-Asset."—No. XL.


NOW OUR PLANS ARE ALL APPROVED FOR OUR NEW HOME, LETS GET FIGURES FOR THE PLUMBING AND HEATING
CALL UP HAR. 5721
I WOULD LIKE YOUR MAN TO CALL UP AT MY HOUSE AND FIGURE ON THE PLUMBING AND HEATING FOR MY NEW RESIDENCE
D— THAT PHONE! IT'S ALWAYS STOPPING MY WORK! NO, I DON'T KNOW WHERE MR. JONES IS! NO! I DON'T THINK HE'LL BE IN TO DAY! YES, YOU MAY CATCH HIM IN TO MORROW.
NO, MR. SMITH IS OUT JUST NOW. CAN I SERVE YOU IN ANY WAY? WANT FIGURES ON YOUR PLUMBING AND HEATING? GLAD TO DO IT. WHAT TIME WILL SUIT YOU BEST? EITHER MR. SMITH OR MYSELF WILL SEE YOU AT THAT TIME, SURE
GUESS I'LL HAVE TO PAY OFF SOME OF THE MEN THIS WEEK. BUSINESS IS CERTAINLY ROTTEN.
ANOTHER CONTRACT! THAT'S FINE. THIS PROMISES TO BE THE BEST BUSINESS YEAR I'VE HAD.
U.S.
U.S. MAIL
CONTRACT
"DOMESTIC ENGINEERING"

The Man on the Wire Can Make or Mar Business.

If you want to possess a special proof of this or any other of our cartoons, let us have your request at once. We have many applications for our cartoons for framing and want to take good care of all demands made.

EASTERN SUPPLY ASSOCIATION TO MEET IN ATLANTIC CITY, N. J.

The Eastern Supply Association will hold its annual mid-summer meeting at the Chalfonte Hotel, Atlantic City, N. J., on Thursday, June 22, 1911, according to notice just issued by Secretary Frank S. Hanley, 261 Broadway, New York City.

WILL SOON AWARD CONTRACTS FOR MARK-LALLY CO'S. NEW BUILDING.

Bids are now being received by the Mark-Lally Co., San Francisco, Cal., for the erection of its fine large four-story warehouse structure on Second street and contracts for the work will be let at an early date.

McCAMBRIDGE-COOPER CO. PURCHASES PROPERTY.

A big deal recently occurred in Philadelphia, when the McCambridge-Cooper Co., dealers in plumbers' supplies, bought a piece of property assessed at $45,000 and measuring 48 by 180 ft. The building is now occupied by this firm, and the purchase price is said to have been $50,000.

ESTABLISHES BRANCH OFFICE IN CINCINNATI AND MOVES PITTSBURGH OFFICE.

The McCrum-Howell Co., Park avenue and 41st street, New York City, has just announced the establishment of a new branch office at 11 Carew Bldg., southwest corner of Fifth avenue and Vine street, Cincinnati, O., with H. L. Bachler as manager. The McCrum-Howell Co. also announces that its Pittsburgh office has been moved from 114 Seventh St. to Jenkins Arcade Bldg.

PEERLESS PACIFIC CO. IN LARGER QUARTERS.

The Peerless Pacific Co., Portland, Ore., has moved its place of business from 43 Front St. to 6-8 Front St., where it now occupies two large floors and basement with electric elevator service. This company started in business only last January and its rapidly increasing business necessitated larger quarters. The company carries a full line of plumbing supplies and is sole agent for Oregon and Washington for the Peerless Selling Co., of Evansville, Ind. The Peerless Pacific Co. is headed by G. R. Smith, president and manager, and H. T. McQuade, acting manager.

CENTRAL FOUNDRY CO'S. REORGANIZATION COMPLETED.

Announcement is made that the reorganization of the Central Foundry Co., New York, which went into the bankruptcy court last year, has been completed, and within a short time the receivership will be formally terminated. Waddill Catchings, who has acted as receiver, has been elected president of the new corporation, De Courcey Cleveland, secretary and treasurer, and W. H. Feltt, assistant secretary and treasurer. The directors are as follows: J. N. Wallace, C. D. Smithers, August Heckscher, G. D. Halleck, N. D. Bill, P. J. Goodhart and G. H. Kinnicutt. Three others, elected to fill the board for the time being, will be replaced later by practical men. The new company, which is incorporated under Maine laws, starts business with $1,000,000 available for improvements and no indebtedness except the $1,000,000 bonds sold to secure the cash. A notice has been sent to the trade announcing that operations will continue without interruption and that orders taken by the receiver will be filled promptly.

PERSONAL MENTION.

Chas. H. Simmons, president of the John Simmons Co., New York City, sailed Saturday, May 20th, on the Minnetonka of the Atlantic Transportation Line, for a two months' vacation in Europe. He is accompanied by his family.

H. T. Sherriff, the Coast representative of Nye, the Die man, has returned from his trip to the northwest, where he went for the purpose of attending the state convention of master plumbers held recently at Tacoma, Wash. In addition to meeting many plumbers there he did quite a bit of business with the Nye dies and new ball cock. He is making his headquarters at San Francisco, Cal., for the present and will visit the trade in the surrounding cities.

Woodward & Wanger, 625-627 Cherry St., Philadelphia, has appointed Frank L. Dumoulin as its representative in Cincinnati and vicinity to succeed R. R. Mason who recently resigned from that position. Mr. Dumoulin was formerly New England representative for Woodward & Wanger and is consequently well-posted on W. & W. goods and quality.

E. G. Pratt, jr., with offices in the People's Gas Light & Coke Co. Bldg., Chicago, has been made middle states representative, including Illinois, Wisconsin, Iowa and Minnesota, for the John Wood Mfg. Co., Conshohocken, Pa., manufacturers of "Electric Weld" combination boiler and gas water-heaters. Mr. Pratt's wide acquaintance among the trade in this territory will no doubt make him a valuable asset to this company.

THE SPRING TOURNAMENT OF THE EASTERN TRADE GOLF ASSOCIATION.

The Eastern Trade Golf Association held its regular annual spring tournament on the links of the Wykagyl Country Club, New Rochelle, N. Y., on Thursday, May 18th. The weatherman exercised his good nature on the golfers' behalf and the result was a most pleasant event.

In the regular 18-hole medal-play handicap contest, A. M. Josephy with a net score of 85 won the first prize. Gilbert G. McDuff with a net score of 85 won the second prize, a very handsome cut-glass decanter, presented by the Plumbers' Trade Journal. J. Barton Garfield, with a gross score of 86, won the third prize, a silver cup. Stephen Roberts, with a net score of 86, won the fourth prize and received a set of cut-glass bottles presented by Chas. C. Hale. C. C. Hale won the fifth prize, with a net score of 86 and received a fine set of golf sticks and bag presented by Alex. Smith, professional of the Wykagyl Country Club. F. S. Bucknam won the consolation prize.

In the match play competition against Bogey, R. B. Hunt was the winner and finished two down to the Colonel and received a very fine silver cup.

In the afternoon, in the best-ball foursome contest, the winners were W. G. LeCompte and Arthur McGonagle, who were awarded the two silver medals as prizes. The

two bronze medals which were the consolation prizes were awarded to Floyd F. Cooper and Frank K. Chew.

18 Hole Medal Play Handicap.

	Out.	In.	Total.	Hdcp.	Net.
A. M. Josephy	47	43	90	55	85
G. G. McDuff	64	57	121	36	85
J. B. Garfield	44	42	86	0	86
Stephen Roberts	47	48	95	9	86
C. C. Hale	53	53	106	20	86
E. C. Molby	53	46	99	12	87
F. J. Oliver	51	54	105	15	90
C. N. Brizse	51	54	105	15	90
E. S. Aitken	51	54	105	15	90
A. McGonagle	59	57	116	23	93
C. S. Wood	63	61	124	30	94
W. H. Burnett	54	51	105	10	95
A. S. Armagnac	51	55	106	10	96
G. M. Scott	67	59	126	30	96
W. G. LeCompte	67	64	131	35	96
W. G. Culbert	59	55	114	18	96
W. C. Marsh	54	53	107	10	97
F. K. Chew	64	68	132	34	98
W. C. Matlack	63	64	127	28	99
R. B. Hunt	69	57	126	25	101
A. M. Maddock, Jr.	72	65	137	36	101
E. H. Giles	63	65	128	25	103
M. E. Conran	66	62	128	25	103
G. A. Suter	64	77	141	34	107
F. B. Barrett	62	54	116	2	114
F. F. Cooper	71	66	137	14	123
F. A. Bucknam	86	71	157	34	123

Foursome Contest.

	Out.	In.	Total.	Hdcp.	Net.
W. G. LeCompte and A. M. Josephy	47	43	90	13	77
R. B. Hunt and A. McGonagle	50	45	95	16	79
C. N. Brizse and E. C. Molby	49	43	92	9	83
S. Roberts and F. J. Oliver	45	47	92	8	84
W. H. Burnett and M. E. Conran	48	48	96	12	84
C. C. Hale and E. S. Aitken	50	49	99	14	85
J. B. Garfield and G. M. Scott	47	49	96	10	86
F. B. Barrett and F. A. Bucknam	51	48	99	12	87
A. S. Armagnac and W. C. Marsh	49	49	98	7	91
A. M. Maddock and W. C. Matlack	58	58	116	21	95
C. S. Wood and G. G. McDuff	56	65	121	22	99
F. F. Cooper and F. K. Chew	57	61	118	16	102

SAN FRANCISCO PLUMBING-SUPPLY JOBBERS WANT LOWER FREIGHT RATES.

The jobbers of San Francisco are making a determined fight to secure lower freight rates into the San Joaquin Valley and the petition of the Merchants' Exchange Traffic Bureau, requesting that the State Railroad Commission order a reduction, especially in class rates, is being heard before the commission this week. Recently the commission gave Los Angeles jobbers a great advantage by a reduction of rates into this field and now the San Francisco firms are asking that they be granted more reasonable rates. Plumbing-supply houses have felt the change that has been made in favor of the southern shippers and it is becoming harder and harder for them to do business without branches in the southern city, as well as at other points, notwithstanding the natural advantages enjoyed here. Many firms have opened branch houses within the past year or two and more are being projected for the near future.

COMMITTEES OF THE AMERICAN SOCIETY OF HEATING AND VENTILATING ENGINEERS ANNOUNCED.

Secretary W. W. Macon, 29 West 39th St., New York City, has just issued a notice to the effect that the following committees have been appointed to carry on a part of the work of the American Society of Heating and Ventilating Engineers for the present year, not including the committees on Compulsory Legislation now at work in Massachusetts, New York, Maryland, Illinois, Indiana and Tennessee:

Standards:

J. J. Blackmore, chairman; Ralph Collamore, Roy E. Lynd, E. A. May, P. H. Seward.

Tests:

W. H. McKiever, chairman; F. T. Chapman, J. A. Donnelly, N. S. Thompson, M. F. Thomas.

Heating Garantees:

W. M. Mackay, chairman; Thomas Morris, G. W. Scott, F. C. Goff, C. E. Pearce.

School-Room Ventilation:

F. I. Cooper, chairman; C. B. J. Snyder, E. D. Densmore, C. F. Eveleth, H. W. Whitten.

Air Leakage and Ventilation of the Closed Room:

Prof. J. H. Kinealy, general chairman.

Massachusetts: H. W. Whitten, chairman; R. L. Folsom, D. S. Boyden, Charles Morrison, L. G. Robbins.

Pennsylvania: I. H. Francis, Jr., chairman; Homer Addams, E. S. Berry, J. E. McGinness, J. P. Schaffer.

Missouri; B. C. Davis, chairman; H. H. Humphrey, J. L. Kent, F. N. Jewett, Samuel Kauffman.

Revision of the Constitution.

Prof. Wm. Kent, chairman; Prof. R. C. Carpenter, W. G. Snow, S. A. Jellett, F. K. Chew.

ANNOUNCES INTERESTING PROGRAM FOR 23RD ANNUAL MEETING OF N. A. M. S. & H. W. F.

Henry B. Gombers, secretary of the National Association of Master Steam and Hot Water Fitters, has just issued the following most interesting program for the 23rd annual meeting of that organization, which will take place at the Hotel Sherman, Clark and Randolph Streets, Chicago, May 29th, 30th, 31st and June 1st. The program in full follows herewith:

Monday Morning, May 29.

Meeting of Committee on Trade Relations at 10:30 o'clock.

Meeting of Committee on Standardization at 11:30 o'clock.

Monday Afternoon.

Meeting of Board of Directors at 3:30 o'clock.

Tuesday Morning, May 30.

Executive Session for members at 11 o'clock for purpose of organizing and disposing of detail matters prior to first general session of the convention.

Appointment of Committee on Credentials.

Tuesday Afternoon, May 30.

First general session of the convention will be called to order at 2:30 o'5clock. Open to members, guests and ladies. Everybody will be welcome.

Address of welcome.

Address of President Charles A. Geoghegan.

Report of Board of Directors, Edward B. Denny, Chairman.

Report of Committee on Trade Relations, P. Gormly.

Report of Committee on Standardization, William J. Baldwin, jr., Chairman.

Report of Treasurer, Juan A. Almirall.

Report of Secretary, Henry B. Gombers.

Appointment of Committees by President Geoghegan: Nominating.

Constitution and By-Laws.

Appeals and Grievances.

Ways and Means and Good of the Order.

Auditing.

Distribution of Reports.

Reception.

Reports from Special Committees.

Reports from Convention Committees.

Tuesday Evening May 30.

At 8:30 o'clock sharp, a Rifle Match between teams from the National Association of Master Steam and Hot Water Fitters and the Manufacturers and Supply Men's Association will take place at Free's Rifle Gallery, 320 North Clark Street.

Wednesday Morning, May 31.

Executive Session at ten (10) o'clock.

Wednesday Afternoon, May 31.

Open Session at 2:30 o'clock. Everybody welcome.

Convention photographs to be taken in meeting-room at 2:30 o'clock sharp. Members and guests, including the ladies, are especially requested to assemble promptly on this occasion.

Be sure to register and have a place in the picture so that a copy of the photograph can be sent to you with the compliments of the Association.

Addresses or papers by prominent members and guests.

Reunion of past-presidents of the National Association of Master Steam and Hot Water Fitters, together with members, past and present, who attended the First Annual Convention of the Association in Chicago, September, 1889.

Report of Nominating Committee.

Election of Officers.

Wednesday Evening, May 31.

At 8 o'clock sharp, a Bowling Match between teams from the National Association of Master Steam and Hot Water Fitters and the Manufacturers and Supply Men's Association will take place at Mussey's Bowling Alleys, 106-108 Madison Street, near Clark Street.

Pool and Billiard Tables will be placed at the disposal of members and guests for their entertainment while the bowling matches are going on.

At 8 o'clock sharp, the Ladies' Bowling Match will also take place on alleys at address above mentioned. Every lady is eligible to enter the game.

After the above matches have been decided, everybody is invited to adjourn at once to the Banquet Room at Hotel Sherman, where prizes will be distributed and refreshments served.

Thursday Morning, June 1.

Last session of the Convention at 10 o'clock to dispose of unfinished business.

The American Radiator Company will entertain the Association, ladies and friends with a ride through the Parks and Boulevards with luncheon at South Shore Country Club. Start will be made from Hotel Sherman at 11 o'clock sharp.

INCORPORATED AS THE ACME SPECIALTY MFG. CO.

The Acme Manufacturing Co., Toledo, O., manufacturers of the "Acme" gas water-heaters, has recently been incorporated as the Acme Specialty Mfg. Co., and has added to its line the following goods: Toilet and shaving mirrors, wood and metal frame bath-room mirrors, glass towel-bars and shelves, and bath-room specialties.

CHICAGO MAKES GOOD SHOWING IN SPITE OF GREAT DRAWBACK.

Considering the unfavorable conditions which have prevailed in the building trades in Chicago, owing to the jurisdictional troubles among the labor unions, the four months of the present year make a surprisingly good showing as measured by the cost and number of permits issued by the city building department. The present year has also suffered from a natural reaction from three or four years of phenomenal building which culminated last year in a total of over $96,000,000, surpassing by a wide margin any other previous year in the history of the city.

Under these circumstances a decrease of $4,000,000 in the cost of the permits issued and 345 in the number issued is anything but discouraging. The wonder is that it was not greater.

On the other hand, it may be said that despite these handicaps and apparent falling off there is more building now going on and contemplated in the near future in the downtown district than ever before in the history of the city.

Construction Now Under Way.

The buildings now under way and their estimated cost are as follows:

Continental Commercial National Bank	$7,000,000
Rothschild & Co.'s new building	5,000,000
Insurance Exchange	4,000,000
Otis building, La Salle and Madison	2,000,000
North American building, State and Monroe streets	1,800,000
Mallers building, Wabash avenue and Madison street	1,500,000
Addition to McCormick building, Michigan avenue and Van Buren street	5,000,000
C. C. Heisen building, Dearborn and Harrison streets	2,000,000
Mandel Bros.' building, State and Madison streets	1,500,000
Chicago Telephone building	1,000,000
Hearst building	1,000,000
Burlington Office building, Jackson and Clinton streets	1,200,000
Monroe building, Michigan avenue and Monroe street	1,500,000
Buck & Rayner building, State and Adams streets	1,000,000
City Hall Square Theater and Office, Clark street	1,500,000
Hamilton Club, Dearborn street	500,000
Blakeley Printing Company building	325,000
Mayer building, Wabash avenue and Adams street	200,000
Addition to Ashland block	1,000,000
Eitel Bros.' building, La Salle and Randolph streets	1,500,000
Hannah & Hogg, Randolph street	250,000
Marshall Field estate ten story addition to McNeill building	250,000
Total	$34,925,000

This is a remarkable showing, and if to this were added the buildings completed during the early part of the year the total would be carried over $40,000,000. Granting that the labor trouble shall soon come to an end, this optimistic review should prove encouraging news for the trade at large.

TRADE LITERATURE RECEIVED THIS WEEK.

Pyroxlin has always meant to us a dangerous explosive compound. We were taught at school that pyroxylin was manufactured by steeping cotton or other vegetable fibers in a cold mixture of equal molecular weights of the strongest nitric acid and sulphuric acid, producing the destructive compound known as gun-cotton. The Standard Sanitary Mfg. Co., Pittsburgh, Pa., has evidently discovered a method of domesticating this alarming product, for it announces that the "Standard" "Ivorite" finish consists of the application of pyroxylin in sheet form to well-made, carefully selected wood seats and covers. This is accomplished by the use of patented machinery, which makes pyroxylin adhere so tightly to the wood as to make it practically one piece. The manufacturers claim that the seats are non-stainable and acid-proof, garanteed not to warp, peel or discolor, and without visible laps or joints. To convince the trade of the beauty of the "Ivorite" products, the Standard Sanitary Mfg. Co. has prepared a special pamphlet, predominating in black and white effects, which show off the beauties of "Ivorite" to great advantage. You can obtain an "Ivorite" pamphlet on request. Mention "Domestic Engineering" when writing for it.

The Miller automatic sanitary drinking-fountain is the product of the Miller Mfg. Co., Chicopee, Mass. Its construction assures a thorough washing of the nozzle both before and after drinking. Water is filtered through 3 cu. in. of quartz, the flow of water from the nozzle being controlled by an automatic valve to insure an even delivery. It is compact and easily installed. A descriptive folder of the device can be obtained from the company upon request. Kindly state that "Domestic Engineering" is the source of your information.

The Humphrey Co., Kalamazoo, Mich., has recently published an attractive folder, showing the Humphrey instantaneous bath water-heater as installed. The No. 2 heater is the favorite for domestic use and bath. The products of combustion are entirely separate from the water, and the heater has tinned water-surfaces. The sentence at the bottom of the folder is an important one: "Every heater must be connected to a vent-pipe." This should be emphasized in the installation of gas-heaters of any type, as during the year there have been over 40 deaths due to the absence of vent-pipes in heater-installation. This is not the fault of the heaters, but can be put down to fool cussedness on the part of the installer or the consumer, or both. Literature on the Humphrey heater can be had by the asking. Mention "Domestic Engineering" when writing.

E. B. Tyler is manager of the Tyler Underground Heating Systems, 301 House Bldg., Pittsburgh, Pa. He is sending out interesting illustrations of the Tyler Underground steam and hot-water specialties for tunnel and ditch construction, consisting of expansion-joints, pipe-rests, wall-brackets, casing, steam-traps, condensation-meters and manhole-castings. These illustrations are worthy of study, and can be obtained upon request. Don't forget to mention "Domestic Engineering" when writing for the Tyler chart.

The Royal Brass Mfg. Co., 1418 E. 43rd St. Cleveland, O., is working on a 100-page catalog to be ready for the trade July 1st.

The Monarch Brass Works, Cleveland, O., is preparing a very elaborate catalog that will be ready for the trade about October 1st. Requests for this catalog will be filed and receive prompt attention as soon as it is issued.

Rickersburg Bros., Cleveland, O., is issuing a catalog on quick-compression work which will be ready for the trade on June 1st.

The Standard Mfg. Co., Pittsburgh, is issuing a wall-card describing and illustrating its solid porcelain urinals. These are furnished with Payne metric flushing-valves or with tanks, as desired. Copy of this card can be obtained upon request. Mention "Domestic Engineering" when writing.

The Walworth Mfg. Co., 136 Federal St., Boston, Mass., is sending to the trade a short list of the fine things in the Walworth catalog. It is really a complete index on one side of the card, and a condensed price-list of the company's products on the other side. It is a good thing to hang up and refer to at a moment's notice. Copy of this can be secured upon application. When you write mention "Domestic Engineering."

THE TYLER UNDERGROUND HEATING SYSTEMS.

Thos. F. Kilbride and Harry Mason, Holyoke, Mass., are inventors of a sanitary drinking-fountain which is receiving considerable favorable comment. Mr. Kilbride is owner of the Kilbride Steam-fitting Co., 135 Main St., Holyoke. The fountain has no mouthpiece, and has an adjustable valve for regulating the flow of water under any pressure. It closes automatically when not in use. It is equipped with an adjustable filter, and is constructed for use in public or private buildings of all types. Mr. Kilbride is making an exhibit of his new fountain in operation as a special store-window attraction.

THE COSGROVE-COSGROVE MFG. CO. ANNOUNCES A BIRTH.

The Cosgrove-Cosgrove Mfg. Co., of Philadelphia, is announcing the birth of a new design of its flexible lead fittings. This lusty little youngster is known as their "Baby Elasto," and is specially designed for use with iron closet-bends. In modern plumbing design, which takes into account the movements of building and piping due to settlements and shrinkages, provision is made to take up the movement at predetermined points, and the "Baby Elasto" was designed, at the request of a manufacturer of iron closet-bends, for use in Cleveland where a lead connection to water-closets in wood floor construction is required, as well as in other advanced cities where a like provision will ultimately become part of the code. The Cleveland code, on which were employed more experts than on any other code ever compiled, has this provision:

The "Baby Elasto" Fitting.

"In wooden floor construction where there is danger of settlement due to inordinate seasoning shrinkage, all connections of earthenware water-closets to the soil-pipe should have at least two (2) inches of lead-pipe between the wiped joint and the under side of floor."

Experiments conducted by the United States Government, Agricultural Department, Division of Forestry, show that floor beams shrink 4 per cent, or about ½ in. in 12 in., upon drying. As the double corrugated "Elasto" fittings made by the Cosgrove-Cosgrove Mfg. Co., require more than 2 inches space, the special "Baby Elasto" was designed, with a range of 1½ inches. That is, it will allow for a shrinkage or settlement of the floor of ¾ in., or a settling of the stack of an equal amount without putting any stress on the fixture or piping.

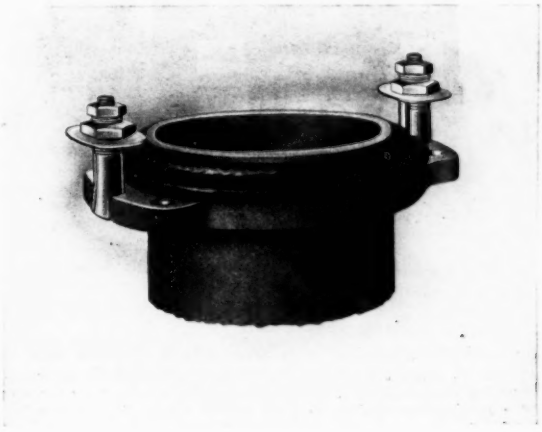
If you want any further information about "Elasto" fittings write to the manufacturers, the Cosgrove-Cosgrove Mfg. Co., Philadelphia, Pa., mentioning "Domestic Engineering."

THE DONOVAN FLANGE.

The Trenton Potteries Co., Trenton, N. J., has secured the rights to manufacture and sell a flange-connection which has been designed to do away with the present defects in connecting the closet to the soil-pipe. This is to be accomplished at a cost which compares favorably with the present method of installation and its advantages should cause it to be generally approved by the trade when it becomes known.

The manufacturers in presenting the flange to the public state:

"Much theoretical argument is advanced against so-called rigid connections. Unconscious of the fact, perhaps, many of those who insist on using lead-pipe connections from the water-closet to the drain are providing no more elasticity with this metal than with iron pipe. After lead pipe is placed in position and surrounded by concrete, there is no more opportunity for lead to give than iron. What is more, it is subject to much more and quicker deterioration from cinder-concrete than properly-coated iron would be. Basing our opinion on fixtures which have been connected to iron pipe without any lead connection, the danger of breakage of water-closet base from this cause is so remote as to be negligible."



The Donovan Flange.

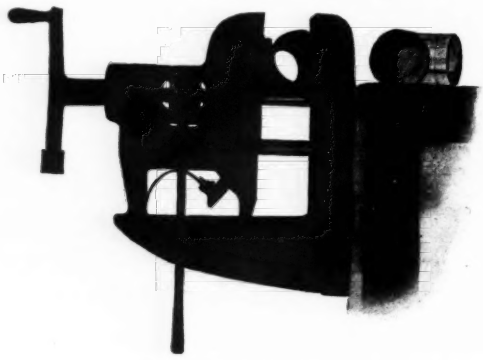
The Donovan flange, as this new connection is known, gives a water-sealed joint at the floor and consists of an iron ring which may be connected directly to pipe or to the floor. To this iron ring, by medium of two hollow slatted bolts, is attached a sliding brass flange. This flange is beveled to receive an asbestos-graphite gasket. The two lower nuts on hollow bolts are the means by which the water-closet is firmly secured to the floor. The compression of the asbestos packing is then accomplished by the two upper nuts which bear on the hollow bolts and which make a perfect joint between the outside of pipe and base of closet.

When the water-closet is flushed, the water flows into recess between pipe and side of closet-base, insuring a tight joint or evidence of a defective one. Further compression of the packing can be obtained by tightening of upper nuts without removing and resetting water-closet. The advantage of the Donovan flange lies in the fact that it is arranged to receive either standard, extra heavy, wrought iron or lead pipe. The Trenton Potteries Co. will gladly send booklet showing methods of installation and full information concerning this fixture. Mention "Domestic Engineering" as the source of your inquiry.

Peoria, Ill.—Building operations are looking up now. Among new buildings here may be mentioned an eight-story fire-proof hotel, costing $500,000, an artificial ice-plant, which will cost about $60,000, and numerous residences and apartments. The Y. M. C. A. has asked sealed proposals for its new building, which is estimated to cost in the neighborhood of $135,000.

"ECONOMIES IN SHOP PRACTICE AND FACTORY EQUIPMENT."

"Economies in Shop Practice and Factory Equipment" is the title of an interesting folder issued by the St. Louis Sales Co., 1224 Chemical Bldg., St. Louis, Mo. It illustrates and describes devices that save. Among these are a quick-action jig-clamp, a quick-action vise, a portable bench-shear and compound lever-snips. The quick-action vise will be of special interest to our readers, as it has been devised to effect a definite time-saving in pipe-work. It is quick of adjustment, and when once set is operated



The Quick-Action Vise.

by a single throwing of a lever. It is claimed that the speed of operating this device is such that from 75 per cent to 80 per cent saving of time is made, as compared to working an ordinary pipe-vise. This vise will take a 2-in. pipe and smaller. Malleable iron is used for the working parts, while the pipe-jaws and dies are of special tool-steel, making it adaptable to heavy work. Plumbers and steam-fitters having good-sized establishments will also be interested in the all-steel lockers supplied by this company. Copy of this folder can be obtained upon application. Mention "Domestic Engineering" when writing for it.

NEWS FROM MINNEAPOLIS.

Trade conditions in Minneapolis plumbing circles are improving with great rapidity. There is a deal of housework being done, together with the work in the new one-and-one-half-million-dollar family hotel now being erected by the Curtis-Mackay interests. The plumbing and heating systems in this building are being installed by the Archambo Co., of this city.

Then, too, the new Brunswick Hotel is being rushed through with both day and night crews and the plumbing and heating is being handled by the H. Kelly Co.

Notwithstanding the vast amount of construction work under way, there seems to be a dearth of heating work among the larger operators. This may be due to the fact that there are a host of fitters out working for themselves on hot-water plants, installing them for the bare cost of the material and a scanty allowance for wages. The jobbers are to blame for this state of affairs in that they have encouraged this kind of competition to the detriment of those who are established, who maintain the right kind of offices and shops, and who stand back of their work through thick and thin. It may be stated as a fact that the man without any heating contracts at the prevailing Minneapolis prices is far better off than the man with a bundle of them. Trade protection in the heating line is unheard of in the Twin Cities.

The writer is of the opinion that the plumbing and heating trades are so closely related as to make it imperative that the two organizations, from the national to the state, and to the local, be united under the banner of trade protection. In that way only can the best interests of this great trade be protected. Why not do it right now? Make it a point to bring it up for discussion in your local meetings, your state meetings, and in the annual conventions of the two associations which are about to be held. Do it now, and you will never regret your action!

"The Squire."

May 29 and 30, 1911.—The 14th annual convention of the Colorado Master Plumbers' Association, at Denver, Colo. This association is composed of master plumbers in Colorado, New Mexico, Utah, Idaho and Wyoming, and its officers are: President, Chris Irving, Denver; vice-president, Henry Green, Salt Lake City; treasurer, A. P. Gumlick, Denver; secretary, Chas. A. Dehn, 414 Chamber of Commerce Bldg., Denver, Colo.

May 29, 30, 31 and June 1, 1911.—The 23rd annual convention of the National Association of Master Steam and Hot-Water Fitters, at Hotel Sherman, Chicago. The officers of the association are: President, Charles A. Geoghegan, New York City; vice-president, Edward B. Denny, Newark, N. J.; treasurer, Juan A. Almirall, New York City; secretary, Henry B. Gombers, 260 West Broadway, New York City.

June 6, 7 and 8, 1911.—Third annual meeting of the National District Heating Association, at Pittsburgh, Pa., headquarters Fort Pitt Hotel. The officers of the association are: President, Geo. W. Wright, Baltimore, Md.; first vice-president, A. D. Spencer, Detroit, Mich.; second vice-president, W. J. Grams, Seattle, Wash.; third vice-president, Warren Partridge, Springfield, Ill.; secretary-treasurer, D. L. Gaskill, Greenville, O.

June 9 and 10, 1911.—Annual convention of the Associated Master Plumbers of Texas, at Galveston. Headquarters will be established at the Tremont Hotel and and the convention sessions will be held in the Scottish Rite Cathedral. The convention will open at 9 a. m. June 9th. The officers of the association are: President, Joseph Netzer, Laredo; vice-president, J. P. Sheehan, Dallas; secretary, J. C. Netzer, Laredo; treasurer, N. S. Hill, Waco.

June 13, 14 and 15, 1911.—The 29th annual convention of the National Association of Master Plumbers of the United States, at Galveston, Tex., with headquarters at the Tremont Hotel. The officers of the association are: President, A. Selden Walker, East Orange, N. J.; vice-president, Alfred C. Eynon, Canton, O.; secretary, Samuel F. Wilson, East Orange, N. J.; treasurer, Wm. McCoach, Philadelphia, Pa.

June 22, 1911.—The annual mid-summer meeting of the Eastern Supply Association, in Atlantic City, N. J. Headquarters will be established at the Chalfonte Hotel. The officers of the association are: President, P. M. Beecher, Syracuse, N. Y.; first vice-president, J. A. Murray, New York City; second vice-president, F. H. Locke, Boston; treasurer, Martin Behrer, New York City; secretary, Frank S. Hanley, 261 Broadway, New York City.

June 28, 1911.—Midsummer meeting of the Central Supply Association, at Detroit, Mich. The officers of the association are: President, Geo. H. Gorton, Kansas City, Mo.; first vice-president, Wm. Ivy, St. Louis, Mo.; second vice-president, P. J. Frey, Minneapolis, Minn.; treasurer, Edw. F. Niedecken, Milwaukee, Wis.; secretary, Paul Blatchford, 1524 Tribune Bldg., Chicago.

THE TWO PIPERS.

He was a long-haired bard;
His daddy was a plumber;
All Winter long dad labored hard;
The son worked Spring and Summer,
And, though he saw some verse in type,
No payments came for days,
And dad makes more at laying pipe
Than the son makes piping lays.

—A. W. Magill in "St. Louis Times."

PITTSBURGH PENCILINGS.

With the summer season coming with a rush during the last fortnight, there has been a decided increase in building, and as a result of this, a fair amount of new business has been acquired by the plumbing and heating concerns in the Greater Pittsburgh district.

Reports gleaned from the offices of many plumbers reveal the fact that only repair work predominated during the early part of the spring, but now that the bulk of this has got out of the way, the new work and larger contracts are coming into play.

There is no denying the fact, however, that the plumbers of the Pittsburgh district can stand considerable more work on their books. Some firms are very busy, others only moderately so. No really large contracts are to be found in the woods just at this time, but the building of a new theater in Diamond street during the coming summer will mean a good piece of business for some one—in plumbing, heating and ventilating.

The Pittsburgh Master Plumbers' Association continues to do the good work it set out to do several years ago, and hardly a meeting passes without additions to the membership. Five new names were received at the meeting held May 16th, and several others were received for action later.

Carnegie, Pa.—Notice has been given that the partnership that has been existing between C. A. Cunningham and F. D. Muttlemaier has been terminated. Accounts will be collected and claims paid by Mr. Cunningham.

Portsmouth, O.—Sales manager of local supply houses have been advised that Saunders & Watrous, who have been doing a large plumbing and heating business will open a branch office and shop in Maysville, Ky., which is directly across the Ohio river.

Barnsboro, Pa.—The Barnsboro Plumbing & Heating Co. has started in business, and in connection with its plumbing and heating installation will also make a specialty of electrical and lighting work. N. Kenneth Harris, formerly of the Johnstown Supply House, Johnstown, Pa., is in charge of the new concern as manager.

NEW ENGLAND NOTES.

Massachusetts.

Boston.—An appropriation of $25,000 for the purchase of additional land about the state normal school at Fitchburg and the erection of a central heating plant, has been favorably reported by the legislative committee on education and is expected to pass shortly.

Uxbridge.—The Uxbridge Plumbing & Furniture Co. has secured the contract for making alterations and additions to the plumbing at the town hall. The job will cost several hundred dollars.

Rockland.—Dempsey & Buxton have been awarded the contract for the heating and plumbing of William H. Burke's new residence on North Union street.

Putnam.—Chandler & Morse have the contract for plumbing and heating in a new house which is being erected for W. S. Johnson.

Northampton.—Albert J. Hebert, formerly of the firm of O'Connor, Hebert and Davies, has opened a plumbing establishment at 35 Market street. O'Connor and Davies are continuing the old business.

Winchester.—J. A. Laraway & Co., who installed the plumbing in the "House of Edison Light" recently erected here, have been retained for this work in connection with the erection of a similar building at Newton Center.

Athol.—J. J. Mulvey has been awarded the contract to do the plumbing and heating in the house which B. W. Leonard is erecting on Pequoig avenue.

Maine.

Portland.—C. H. Newcombe has been arranging for the organization of an association of plumbing inspectors of New England.

Brewer.—G. Homer Fraser, who has been associated with the Maine Plumbing Co. for nearly eight years, has opened a shop of his own in this town.

Connecticut.

Waterbury.—Contracts for the alterations and additions which are to be made at the town hall building have been awarded. The contracts for plumbing and heating went to Roberts and Arnold, of Bristol.

Rhode Island.

Pawtucket.—The city council has adopted a new ordinance providing for the examination, registration and licensing of all plumbers working in the city. The ordinance in part follows:

"No person, firm or corporation shall carry on or engage in the plumbing business in the city of Pawtucket, nor shall any person make any connections with the Pawtucket water-works unless licensed as hereinafter provided.

"A board of examiners of master plumbers hereby is created to consist of the inspector of plumbing, the city physician and one member of the master plumbers' association. . . . . Said board shall arrange and conduct examinations and may establish rules and regulations."

BROOKLYN, N. Y., MASTER PLUMBERS' ASSOCIATION HOLDS OPEN MEETING.

The Brooklyn Master Plumbers' Association, of which John W. Sands is president, held an open meeting on Friday evening, May 19th, at its meeting-room, 81 Hanson Place, to which all registered licensed master plumbers were invited. A number of guests prominent in official life of the craft were invited and the following responded with their presence: A. Selden Walker, president, and Samuel F. Wilson, secretary, both of East Orange, N. J., of the National Association of Master Plumbers; Pres. John H. Moran, Albany; Vice-Pres. Frank B. Lasette, New York; and Thombas E. O'Brien, Brooklyn, a member of the executive board of the New York State Association of Master Plumbers; Isaac J. Brown, New York, president of the Greater New York Association of Master Plumbers; Matthew J. Kennedy, Brooklyn, assistant superintendent of buildings of said city, and John E. Dugan, Albany, past state president, all of whom addressed the meeting on various trade-topics.

At the conclusion of the meeting, applications for membership were received from over 60 of the invited firms present, and then President Sands cordially invited all to repair to the banquet-hall, where a few hours were spent in refreshment and entertainment of a musical and literary character. Every one enjoyed the event hugely and too much credit cannot be given the Brooklyn local for the character and general success of the whole program.

Previous to the meeting a reception committee, consisting of Pres. John W. Sands, Thomas E. O'Brien and Matthew J. Kennedy, met the official guests at the Hotel Astor, Manhattan, and entertained them at dinner.

SARATOGA SPRINGS, N. Y., MASTER PLUMBERS ORGANIZE.

John H. Moran, of Albany, president of the New York State Association of Master Plumbers, accompanied by John E. Dugan, of said city, visited Saratoga Springs, N. Y., on May 17th and organized a local association of master plumbers, consisting of the following firms: E. H. Butler, Collins & Spencer, James W. Fitzpatrick, Freeman & Shea and William P. Tarrant.

Officers for the current year were elected as follows: President, William P. Tarrant; vice-president, James W. Fitzpatrick; secretary, Hiram J. Freeman; treasurer, James H. Powers. The new local started off very enthusiastically and several other other firms are expected to affiliate during the coming month.